

Revised
**OPEN MEETING
MEMORANDUM**

TO: THE COMMISSION

FROM: Utilities Division

DATE: September 15, 2020

RE: IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR A RULING RELATING TO ITS 2020 DEMAND SIDE MANAGEMENT IMPLEMENTATION PLAN (DOCKET NO. E-01345A-19-0088)

INTRODUCTION

Enclosed are the Commission Staff's memorandum and proposed order for the Matter of the Application of Arizona Public Service Company for a Ruling Relating to its 2020 Demand Side Management Implementation Plan (Docket No. E-01345A-19-0088). This is only a Staff recommendation to the Commission; it has not yet become an order of the Commission. The Commission can decide to accept, amend or reject Staff's proposed order.

You may file comments to the recommendation(s) of the proposed order by efilings at <https://efiling.azcc.gov/> or filing an original and thirteen (13) copies of the comments with the Commission's Docket Control Center at 1200 West Washington Street, Phoenix, Arizona 85007 by 4:00 p.m. on or before **September 21, 2020**.

This matter may be scheduled for Commission deliberation at its Open Meetings scheduled **September 22, 2020, at 10:00 a.m. and September 23, 2020, at 10:00 a.m.**

If you have any questions about this matter, please contact Sofia Peirats of our Staff at (602) 542-1266 or Elijah Abinah, Director, at (602) 542-6935.

BACKGROUND

On December 30, 2019, Arizona Public Service Company ("APS" or "Company") filed an application with the Arizona Corporation Commission ("Commission") requesting approval of its 2020 Demand Side Management Plan ("DSM Plan", "2020 DSM Plan", "Plan" or "Original Plan") in compliance with the Electric Energy Efficiency Standards ("EE Rules") set forth in Arizona Administrative Code ("A.A.C.") R14-2-2401 through R14-2-2419. This DSM Plan completely replaces APS' previous 2018 and 2019 DSM Plan filings.

On May 15, 2020, APS filed an Amended 2020 DSM Plan ("Amended Plan") in order to respond to the COVID-19 pandemic. All elements of the Original Plan remain the same except where specifically modified in the Amended Plan. Per the Company's request, those items specifically modified in the Amended Plan will replace the Original Plan.

APS requests the Commission:

1. Approve its 2020 DSM Plan as discussed in Exhibit A of the Company's application except where specifically modified in the Amended Plan;
2. Approve its Amended Plan in its entirety as discussed in Exhibit A of the Company's Amended Plan filing;
3. Continue the waiver of the ten percent cap in A.A.C. R14-2-2404(C);
4. For the remainder of 2020, grant APS a waiver to the budget requirements set forth in Decision No. 74406 (March 19, 2014), which allow APS to shift 50 percent of a program budget;
5. Allow APS to shift unused funds from one program to another up to 75 percent of an individual budget and between customer segments as needed;
6. Grant APS the ability to both increase, and decrease incentives upon providing a 30-day notice, including justification for the change, to the Commission;
7. Approve a 2020 DSM budget of \$51.9 Million; and
8. Maintain the DSM Adjustment Charge ("DSMAC") approved in Decision No. 76313 (August 23, 2017).

PROGRAM SUMMARY WITH STAFF ANALYSIS AND RECOMMENDATIONS

2020 DSM Plan

In its 2020 DSM Plan, APS is proposing a modified structure to its current portfolio, which includes a combination of previously approved DSM programs and measures targeted to multiple customer segments. APS intends to continue the programs and incentive levels unless otherwise specified herein, approved in Decision No. 76313. The 2020 DSM Plan proposes new programs and measures designed specifically to help customers who have been impacted by COVID-19.

The focus of Commission Utilities Division Staff's ("Staff") review is on the new, amended, and/or expanded measures proposed in APS' 2020 DSM Plan. The table below is a side by side of APS' current and proposed DSM Portfolios.

Current DSM Portfolio	Proposed 2020 DSM Portfolio
<u>Residential Programs:</u> -Consumer Products -Existing Homes HVAC -Home Performance with ENERGY STAR -Residential New Construction -Limited Income Weatherization -Multi-Family EE -Conservation Behavior	<u>Residential Programs:</u> -Existing Homes (Includes Consumer Products, HVAC; and Home Performance with ENERGY STAR) -Residential New Construction -Limited Income Weatherization -Multi-Family EE -Conservation Behavior
<u>Non-Residential Programs (Solutions for Business):</u> -Large Existing Facilities -Small Business -New Construction and Renovation -Schools -Energy Information Services	<u>Non-Residential Programs (Solutions for Business):</u> -Existing Facilities (Includes Large Existing Facilities and Small Business) -New Construction and Major Renovation -Schools -Energy Information Services
<u>DSM Initiatives (Serving both Residential and Non-Residential Segments):</u> -Codes and Standards Initiative -Demand Response -APS System Savings Initiative -Transmission and Distribution ("T & D") Pilot -Load Management Technology Pilot -Energy and Demand Education Initiative	<u>DSM Initiatives (Serving both Residential and Non-Residential Segments):</u> -Demand Response -Energy Load and Management (Rewards) -EV Charging Demand Management -Subscription Rate Pilot -Building Codes and Applicable Standards -APS System Savings -Energy and Demand Education

Staff conducted a cost-benefit analysis in accordance with A.A.C. R14-2-2412(B), which requires that the Societal Test be used for determining the cost-effectiveness of a DSM program or measure. Under the Societal Test, in order to be cost-effective, the ratio of benefits to costs must be greater than one. Staff used this method to determine if a program/measure is cost-effective and based the recommendations accordingly.

APS is proposing the following in its 2020 DSM Plan:

- A. *Program Expansions and/or Changes*
 1. Existing Homes Program (Residential)

APS is proposing to combine the current Consumer Products, Existing Homes HVAC, and Home Performance with ENERGY STAR programs into one program for Existing Homes. Combining the programs will allow easy access to all the DSM program savings opportunities that are available for existing homes.

Based on Staff's analysis and review of the information provided, Staff believes that combining the Consumer Products, Existing Homes HVAC, and Home Performance with ENERGY STAR programs into the Existing Homes Program will benefit customers and local

trade allies by providing convenience and making it easier to find all DSM opportunities available for existing homes. This proposed program design change will not eliminate or modify any of the currently approved measures or delivery channels in each of the current programs; it will only combine these measures into a single comprehensive program. Staff recommends approval of the proposed Residential Existing Homes Program.

2. Conservation Behavior Program (Residential)

The Conservation Behavior Program is an existing program that motivates energy savings by providing Home Energy Reports (“HERS”), emails, and online information to participating households. The program shows participants a profile of their energy use, how it compares to similar homes, and offers them customized tips.

In the 2020 DSM Plan, APS plans to expand the Program to deliver personalized seasonal HERS by Email (“eHERS”) for up to 400,000 participating households. The Company also plans to expand the use of HERS to help limited income customers by introducing a new HERS delivered to all APS limited income customers in the APS Energy Support Program. Furthermore, APS plans to utilize HERS to help educate customers and to promote other available energy saving program opportunities and incentives.

In addition, APS plans to implement a new element to the program that will offer a mobile phone app for customers, which provides an ongoing breakdown of how they’re using energy based on Advanced Metering Infrastructure (“AMI”) data. Customers who wish to upgrade can purchase an energy bridge (also called a gateway device), which will provide them with real time feedback of their energy usage and demand. APS states that these devices currently retail at approximately \$100 and the Company is proposing to offer customer incentives of around 50 percent of incremental cost, or \$50/household device, with flexibility to adjust incentives up to a maximum of 75 percent of incremental cost. It is budgeted to reach approximately 60,000 app users and up to 5,000 customers receiving real time information through a gateway device.

The proposed HERS Program expansion can be achieved with little to no extra cost and it has no effect on the Program’s cost-benefit analysis. Staff recommends approval of the program expansion. To allow more customers to benefit from the energy and demand gateway device measure, Staff further recommends a customer incentive of 35 percent incremental cost, or \$35 per household device, with flexibility to adjust incentives up to a maximum 50 percent of incremental cost.

3. Existing Facilities (Non-Residential)

APS is proposing to consolidate the Large Existing Facilities and Small Business Programs into a single, comprehensive Existing Facilities Program for all Non-Residential customers. APS states this will streamline program delivery, reporting and overhead costs, and will help maintain cost-effectiveness in the Small Business program segment. The Company also states that this change is largely confined to administration only since it is already marketed to customers as one comprehensive Solutions for Business program. Furthermore, APS says it will continue to

separately track, and report, program participation from small business customers in its DSM Annual Progress Reports.

The proposed design change will not affect any of the programs and/or its measures; it will only combine the Large Existing Facilities and the Small Business programs, along with their respective measures, to form the Existing Facilities (Non-Residential) Program. Staff recommends approval of the Existing Facilities (Non-Residential) Program.

To ensure small businesses are taking advantage of all the DSM incentives available to them, Staff further recommends APS continues to track and report program participation from small business customers separately in its DSM Annual Progress Reports.

4. Non-Profit Program (Non-Residential)

On February 19, 2020, pursuant to Decision No. 75323 (November 25, 2015), APS provided notice that it was going to offer the same cost-effective DSM measures offered in the Schools Program to qualifying non-profit community organizations effective April 1, 2020.

Decision No. 75323 allows APS to offer any Commission approved EE measure, from a specific Company Program, to any other program if the measures remains cost-effective. APS states the measures would remain cost-effective for the expanded list of participants and that it will not increase the overall 2020 DSM Budget.

The 2020 DSM Plan proposes to add the new Non-Profit Program within the Non-Residential Existing Facilities and New Construction Programs. This Program will allow qualifying non-profit facilities to access the list of special incentives available within the Schools Programs. APS' objective is to help these organizations reduce their energy costs through EE projects, so they can lower operating expenses and devote more resources to the community.

In order to qualify, organizations must submit documentation of their 501(3)(C) tax designation as proof of their non-profit status.

The Non-Profit Program will be separately tracked and recorded within the Non-Residential Existing Facilities and New Construction Programs.

The table below lists the measures that will be expanded to qualifying non-profit, 501(C)(3), organizations within the Non-Residential Existing Facilities and New Construction programs:

Delamping	Lighting Power Density	Reach in Cooler Controls	Floating Head Pressure Control
LED Exit Signs	Outdoor Lights	Anti-Sweat Heater Control	Evaporate EC Fan Motor
Linear LEDs	EE Refrigerator	Beverage Machine Controller	Efficient Condenser
LED Bulbs	EE Freezer	Snack Machine Controller	Efficient Compressor
Refrigerated Case LED	Strip Curtains	Automatic Door Closer	

Staff believes that community non-profit organizations should have access to the list of special incentives available to the Schools Program and recommends approval of the Non-Profit Program for both the Non-Residential Existing Facilities and New Construction Programs.

Staff further recommends the Non-Profit Program be separately tracked and recorded within the Non-Residential Existing Facilities and New Construction Programs.

5. Energy Information Services (Non-Residential)

APS has included funding in their 2020 DSM Plan to support enhanced education, training and technical assistance support for Non-Residential customers and trade ally contractors who deliver energy services to this sector. This includes providing support for DSM measures where APS is currently offering incentives and technical support for DSM measures where incentives are not offered. In 2020, APS plans to enhance trade ally training with an online learning platform and with an online and onsite customer facility energy assessments.

Staff recommends approval of the proposed expansions to the Non-Residential Energy Information Services Program.

6. APS System Savings Initiative (DSM Initiatives)

APS is proposing the following System Savings Projects:

- Operation of Conservation Voltage Reduction systems on an estimated 12 distribution feeders throughout the APS service territory in 2020; and
- EE upgrades to APS facilities

Furthermore, APS intends to count an estimated annual energy savings of 5,200 Megawatt-Hours ("MWhs") toward the EE Rules from these proposed System Savings Projects.

Staff recommends approval of the proposed System Savings Projects Initiative.

7. Building Codes and Appliance Standards (DSM Initiatives)

The Building Codes and Appliance Standard Initiative encourages energy savings by supporting better compliance with energy efficiency building codes and appliance standards in jurisdictions throughout the APS service territory. In 2020, APS intends to continue and expand current program efforts supporting codes and standards related energy savings. APS estimates approximately 27,000 MWhs of savings from the Building Codes and Appliance Initiative in 2020.

Staff recommends approval of the proposed Building Codes and Appliance Standards Initiative.

8. Energy and Demand Education Initiative (DSM Initiatives)

The Education and Demand Education Initiative Program was approved in Decision No. 76313, and it provides customers with energy usage information tools and resources to help them better manage their energy use and demand. In 2020, APS proposes to introduce new energy information tools including web-based energy and demand analyzers, while continuing ongoing support and enhancements to the current educational tools available to residential and non-residential customers.

Staff recommends approval of the proposed Energy and Demand Education Initiative.

9. Transmission & Distribution ('T & D') Pilot (DSM Initiatives)

APS is proposing to consolidate the T & D Pilot into the Demand Response, Energy Storage and Load Management ("Rewards") Initiative. The T & D Pilot was originally included in APS' 2017 DSM Plan as a pilot funded outside of DSM. Its purpose was to provide information on benefits from improved system operations that may be gained by targeting DSM opportunities at the substation level. Subsequently, APS launched the Rewards Initiative, which is being targeted at the feeder/substation level. APS states that this initiative has become the T & D Pilot, so a separate program is no longer needed.

Staff recommends approval to consolidate the T & D Pilot into the Rewards Initiative.

10. Load Management Technologies Pilot (DSM Initiatives)

The Load Management Technologies Pilot was originally included in APS' 2017 DSM Plan as a pilot initiative funded outside of DSM seeking to deploy commercially available load control and load shifting technologies for residential and non-residential customers. APS is proposing to consolidate this pilot into the Rewards Initiative that will leverage the technology learnings gained from the pilot.

Staff recommends approval to consolidate the Load Management Technologies Pilot into the Rewards Initiative.

B. Proposed Modified and/or New Measures

1. HVAC Quality Installation Program Modification (Residential)

The HVAC Quality Installation Program offers customers a \$200 per unit incentive to replace their aging HVAC system with a newer, more energy efficient one. Given the COVID-19 pandemic, APS is proposing temporary modifications to this program for the 2020 program year. The Company requests that, if approved, the modifications only be in effect until the end of the year, with the program returning to the currently approved program requirements effective January 1, 2021. APS proposes the following temporary program modifications:

- Increase the incentive for eligible residential HVAC replacements to \$1,000 per unit for all qualifying Seasonal EE Ratio ("SEER") units, and to \$1,200 per unit for all qualifying equipment 15 SEER and above.

To qualify for the proposed increased incentives, APS' customers must meet the following requirements:

- a. The HVAC unit must be an emergency replacement of existing HVAC equipment that has failed or is failing. The incentive does not apply to early replacement of working equipment, or to new HVAC units that are not replacing existing equipment.
- b. Customers must self-attest that they have become unemployed due to the COVID-19 pandemic and will be required to sign a form that confirms they meet the program qualifications.
- c. HVAC units must be replaced before December 31, 2020, or until funding is no longer available, whichever comes first.
- d. Customers must meet all other current program requirements.

Customers who do not meet the conditions above may still receive the current \$200/unit incentive if they meet all other current program requirements.

The HVAC Quality Installation Incentives are part of currently approved cost-effective measures and increasing them has no effect on cost-effectiveness. Staff believes that with a temporary increase to the incentive increase is appropriate but recommends an \$800/unit incentive for both qualifying SEER and 15 SEER and above units instead of the requested \$1,000/unit and \$1,200/unit. The recommended temporary \$800/unit incentive will allow for more customers to benefit from the program.

Staff further recommends the Residential HVAC Quality Installation Program return to its currently approved requirements on January 1, 2021.

2. Rate Optimized Smart Thermostats (Residential)

APS is proposing to add a new smart thermostat measure, in which qualifying customers will receive a free Rate Optimized Smart (“ROS”) Thermostat that will allow APS to automatically adjust customers’ thermostat operations during peak demand periods to help shift energy use and reduce on-peak energy costs.

This measure targets both single family and multi-family residents, and to qualify, customers must agree to be on an advanced rate plan and participate in the residential APS Cool Rewards Smart Thermostat Demand Response Program for at least one summer season (June 1-September 30).

Customers can install the thermostats themselves, but APS will also offer a reduced installation cost through participating contractors.

ROS Thermostats Measure	Cost-Benefit Ratio
Existing Homes	1.98
Multi-Family	1.67

Staff recommends approval of ROS Thermostats as a new measure for both Residential Existing Homes and Multi-Family Programs.

3. Connected Water Heater Controls Pilot (Residential)

This proposed pilot measure would offer direct installed connected water heater controls, which are water heater timers, for eligible participating customers who receive an on-site Home Performance energy audit. A water heater timer is a small electronic device that fits onto customer’s water heater and allows them to set specific periods for hot water production and maintenance. This measure targets both Existing Homes and Multi-Family residents and to participate, customers must have electric water heating and agree to be on an advanced rate plan (new Time of Use (“TOU”) or demand rate).

APS states that the program will be delivered through direct install home performance contractors who will directly install and configure the timers for participating customers. Furthermore, customers may elect to pay a small fee to upgrade to smart technology that offers additional features including leak detection and mobile phone applications that can remotely monitor and adjust water heater settings.

Connected Water Heater Controls Pilot (Timers)	Cost-Benefit Ratio
Existing Homes	0.40
Multi-Family	0.45

Staff found this measure to not be cost-effective and recommends denial of Connected Water Heater Controls as a new pilot measure for both Residential Existing Homes and Multi-Family Programs.

4. Connected Pool Pump Controls Pilot (Residential)

APS is proposing to add connected pool pump controls as a new pilot measure for Existing Homes. In this proposed measure, customers would receive an incentive for a device that would allow them to remotely monitor and change pump settings. The Company is proposing an average incentive of \$30 per qualifying device, with the flexibility to adjust the incentive up or down in response to market conditions, with a maximum not to exceed 75 percent of the product's incremental cost.

Initially, APS did not provide Staff with the necessary information needed to run a cost-benefit analysis. After Staff received the information, it ran a cost-benefit analysis and determined that with a cost-benefit ratio of 0.14 the pool pump controls are not cost-effective. Staff recommends denial of Connected Pool Pump Controls as a new pilot measure for the Residential Existing Homes Program.

5. Electric Vehicle ("EV") Ready Pre-Wire (Residential)

This proposed pilot measure targets Residential New Construction customers and will offer an incentive of \$100 per home to participating homebuilders who make their homes "EV Ready" by pre-wiring the garages to support future installation of EV charging stations.

This will be a prescriptive incentive available to all homebuilders (subject to budget availability) regardless of their participation in the APS ENERGY STAR Homes program. In order to qualify for an EV Ready incentive, participating homes must meet all the following criteria:

- Must include a dedicated 240-volt, 40-amp plug-in ready circuit with NEMA 14-50 outlet, or equivalent, in vehicle parking area.
- Installation must meet the requirements of the National Electric Code as well as any applicable local building code requirements.

After conducting a cost-benefit analysis, Staff determined the proposed pilot measure had a 0.0 cost-benefit ratio, but because EV measures use electricity and replace vehicles, which do not. A standard EE evaluation based on the Societal Test would not be informative as to cost-effectiveness. However, past cost-benefit comparisons on similar programs indicate that the EV Ready Pre-Wire Pilot Measure is likely to be cost-effective in a new home that has at least one EV¹.

¹ Tucson Electric Power Company's ("TEP") Smart Home EV Pilot Program (Decision No. 77085).

Staff recommends approval of EV Ready Pre-Wire as a new pilot measure for Residential New Construction Program. Furthermore, since a new home wired to accommodate EVs may or may not attract buyers with EVs, Staff also recommends that APS work with participating homebuilders to design the EV Ready Pre-Wire Pilot Measure so that pre-wired EV homes are marketed to individuals or communities with the highest likelihood of owning an EV.

6. Connected Water Heating (Residential)

APS is proposing to add a new connected electric water heating pilot measure. This proposed pilot measure targets both new construction and multi-family customers and will offer incentives of approximately \$200 per home to participating homebuilders, and associated trade allies, who install qualifying connected electric hot water heaters in new homes.

The proposed builder incentive would be based on the total incremental cost of including connected technology in the water heaters plus a builder incentive of \$25/home for participation. Furthermore, APS states that it may offer this measure as an upstream incentive paid directly to product manufacturers/distributors to leverage these trade ally partners and reduce the added cost of a connected water heater for participating new homes.

Qualifying water heaters may be standard electric resistance or heat pump water heaters, but they must include communication modules and controls to allow for remote control of temperature settings. Lastly, the buyers of these homes will have the opportunity to participate in any future APS demand response programs that involve connected water heating technology.

Connected Water Heating	Cost-Benefit Ratio
New Construction	0.50
Multi-Family	0.50

Staff has found this proposed pilot measure is not cost-effective and recommends denial of Connected Water Heating as a new measure for both Residential New Construction and Multi-Family Programs.

7. Induction Cooktops (Residential)

This proposed new pilot measure targets both new construction and multi-family customers and encourages homebuilders to install induction cooktops in their new communities. Induction cooking uses magnetic currents to directly heat pots and pans, which allows the cooktop to stay cooler. APS is proposing an average homebuilder incentive of \$200 per induction cooktop with a volume not to exceed 1,000 participating new homes in 2020.

APS openly states that this measure does not currently pass the Commission's cost-effectiveness test due to the higher cost of induction cooking, but the Company feels the Commission's analysis doesn't account for all potential benefits. Furthermore, APS states that proceeding with this pilot measure will allow them to gather more information on this technology.

Induction Cooktops	Cost-Benefit Ratio
New Construction	0.01
Multi-Family	0.01

Induction Cooktops undoubtedly offer some benefits; however, they are a relatively new technology and cost more than the same sized traditional cooktop. Furthermore, induction cooktops require special cookware for the induction process to work correctly magnetic cookware must be used.

Given the extra cost of induction cooktops, the need for special cookware, and the fact that this measure does not pass the Commission's cost-benefit analysis test, Staff recommends denial of Induction Cooktops as a new pilot measure for both the Residential New Construction and Multi-Family Programs.

8. Limited Income Weatherization (Residential)

This Program provides support to those residential customers who have the most difficulty affording their energy costs. In 2020, the program plans to partner with local weatherization agencies and a non-profit multifamily rehabilitation project expert to encourage comprehensive retrofits of limited income multi-family properties. In accordance with Decision No. 76313, APS has, and will, continue increased funding for the program. Furthermore, the program will also target support to reach disadvantaged communities and provide upgrades for multifamily properties.

Given the COVID-19 pandemic, APS is also proposing a temporary increase to the funding cap per home from \$6,000 to \$9,000 for weatherization projects performed by December 31, 2020.

With a cost-benefit ratio of 1.94, Staff recommends approval of the Home Weatherization Upgrades for the Residential Limited Income Weatherization Program.

Staff further recommends approval to temporary increase the funding cap for weatherization projects from \$6,000 to \$9,000, with the funding cap returning to \$6,000 on January 1, 2021.

9. Increase HVAC Qualifying Incentives (Non-Residential)

APS is proposing to temporally increase the incentive for replacing qualifying HVAC equipment up to 75 percent of incremental costs with a maximum cap of no more than \$10,000 per unit. Qualifying School HVAC replacement projects will also be eligible to participate in this incentive.

To qualify for these proposed increased incentives, customers must meet the following requirements:

- a. The HVAC unit must be an emergency replacement of existing HVAC equipment that has failed or is failing. The incentive does not apply to early replacement of working equipment, or to new HVAC units that are not replacing existing equipment.
- b. HVAC units must be replaced before December 31, 2020, or until funding is no longer available, whichever comes first.
- c. Customers must meet all other current program requirements.

Customers who do not meet the conditions above may still receive the standard program incentives if they meet all other current program requirements.

The HVAC Qualifying Incentive is part of a currently approved cost-effective measure and increasing it has no effect on cost-effectiveness. Staff recommends approval to temporarily increase the HVAC Qualifying Incentives up to 75 percent of incremental costs with a maximum cap of no more than \$10,000 per unit for Non-Residential Existing Facilities and Schools Programs. Staff further recommends the Program returns to its current requirements and incentives January 1, 2021.

10. New Prescriptive EE Measures (Non-Residential)

APS is proposing to move the following measures from custom incentives to prescriptive incentives:

- Compressed Air Condensate Drains; and
- Upgraded Receivers

The Company states that both measures have been found to be cost-effective across a wide range of commercial applications and the move will highlight them as potential savings opportunities for customers and trade allies.

In addition, APS is proposing to add the following new prescriptive EE Measures:

- Data Center Computer Room ACs;
- Ultrasonic Humidification; and
- Networked Thermostats

APS identified these three measures as new customer savings opportunities through work with stakeholders in the DSM Collaborative and Integrated Resource Plan working groups. The Company further states that these technologies are currently being deployed in other utility programs.

Measure and Program	Cost-Benefit Ratio
Compressed Air Condensate Drains (Existing Facilities, New Construction)	1.41
Upgraded Receivers (Existing Facilities)	4.30
Data Center Computer Room AC's (Existing Facilities, New Construction, & Schools)	1.26
Ultrasonic Humidification (Existing Facilities)	1.38
Networked Thermostats (Existing Facilities, & New Construction)	1.17

Staff recommends approval of Compressed Air Drains and Networked Thermostats as new measures for both the Non-Residential Existing Facilities and New Construction Programs.

Staff recommends approval of Upgraded Receivers and Ultrasonic Humidification as new measures for the Non-Residential Existing Facilities Program.

Staff recommends approval of Data Center Computer Room AC's as a new measure for the Non-Residential Existing Facilities, New Construction, and Schools Programs.

11. New Electrification Pilot Measures (Non-Residential)

APS is proposing the following new Electrification Measures:

- Standby Truck Refrigeration (Existing Facilities and New Construction) - Electric standby truck refrigeration units allow trucks to plug in and use electricity to power their HVAC and/or refrigerated storage while they are docked at a truck stop or distribution facility. APS proposes to pay an incentive of approximately \$750 per bay for eligible newly installed electric conversion units (electric infrastructure replacing existing electric infrastructure does not qualify for this program). APS may vary the incentive in response to market conditions within a range not to exceed 75 percent of customer incremental cost.
- Electric Forklifts (Existing Facilities and New Construction) - Electric Forklifts can be used as an alternative to conventional forklifts that run on propane or diesel fuel. APS proposes to pay an incentive of approximately \$1,250 per electric forklift addition or existing forklift conversion (electric equipment replacing existing electric equipment does not qualify for this program). APS may vary the incentive in response to market conditions within a range not to exceed 75 percent of customer incremental cost.
- Airport Electrification (Existing Facilities)
- Airplane tugs
- Airport luggage carts

- Airport luggage conveyors

APS is proposing average incentives of approximately \$1,100/unit for belt loaders, \$2,500/unit for baggage tugs, and \$5,000/unit for push back tugs.

Measure and Program	Cost-Benefit Ratio
Standby Truck Refrigeration (Existing Facilities & New Construction)	7.15
Electric Forklifts (Existing Facilities & New Construction)	4.83
Baggage Tugs (Existing Facilities)	1.56
Belt Loaders (Existing Facilities)	3.44
Push Back Tugs (Existing Facilities)	-0.6

On August 10, APS provided Staff with additional information regarding their proposed electrification pilot measures. With the new information, Staff was able to conduct a more efficient cost-benefit analysis on these proposed new measures.

Staff recommends approval of Standby Truck Refrigeration as a new measure for the Non-Residential Existing Facilities & New Construction Programs.

Staff recommends approval of Electric Forklifts as a new measure for the Non-Residential Existing Facilities and New Construction Programs.

Staff recommends approval of Baggage Tugs as a new measure for the Non-Residential Existing Facilities Program.

Staff recommends approval of Belt Loaders as a new measure for the Non-Residential Existing Facilities Program.

Staff recommends the Commission does not approve Push Back tugs as a new measure for Non-Residential Existing Facilities.

12. Modifications to Custom, Whole Building and Retro-Commissioning Incentives (Non-Residential)

APS intends to modify the incentive design for the current Custom, Whole Building and Retro Commissioning measures. The new design provides a small incentive for EE savings at any time of the year, with an increased incentive applied to on-peak summer energy savings.

The proposed custom incentive design for these measures is as follows:

- An incentive of \$0.02 per Kilowatt-Hour ("kWh") will be offered for qualifying custom EE projects based on estimated first year annual kWh energy savings.

- On qualifying projects, a bonus incentive of \$0.18 per kWh will be offered for all first-year savings that occur during summer on-peak hours on weekdays from June 1 through September 30 (as calculated and confirmed by APS energy modeling).
- All other rules and requirements for the Custom, Whole Building and Retro-Commissioning Incentives program remain in effect.

Custom, Whole Building and Retro-Commissioning are currently approved cost-effective measures and modifying their incentives will not affect their cost-effectiveness. Staff recommends approval of the modifications to Custom, Whole Building and Retro-Commissioning Incentives for the Non-Residential Existing Facilities and Schools Programs.

13. Cool Rewards (DSM Initiative)

APS is currently implementing the Rewards Initiative, which facilitates demand response, manages peak demand, and uses load shifting technologies including smart thermostats under the Cool Rewards Program. Participants of the Cool Rewards Program allow APS to raise their thermostats up to three degrees above the set temperature during Cool Rewards events, which occur no more than 20 times during on-peak hours between June 1 and September 30, and can last up to two hours.

In 2020, APS plans to expand the participation goal for Cool Rewards to 35,000 thermostats. In order to meet the increased program participation goals, the Company intends to increase the enrollment incentive from \$25 to \$50 but will keep the \$25 annual participation incentive as is.

Furthermore, APS intends to make the following program modifications to the Cool Rewards Program:

- The temperature range for events may be up to three degrees of pre-cooling and/or thermostat setback for standard events and up to a maximum of four degrees setback for a limited number of high priority events each year.
- The time period of thermostat temperature setback during demand response events for any individual participating thermostat may be up to three hours.
- Customer notice of events will be provided not less than two hours in advance of an event or 15 minutes for a limited number of high priority events. Customers will always maintain the ability to override any event by manually adjusting their thermostat settings.
- APS intends to expand Cool Rewards eligibility to include qualifying small business customers. Small business customers will receive the same incentives as residential customers for each participating smart thermostat they enroll in the program.

Cool Rewards is a currently approved measure and modifying its incentive will not affect its cost-effectiveness. Staff recommends approval of the \$50 enrollment incentive for the Cool Rewards Program.

Staff further recommends that temperature range for events be up to three degrees of pre-cooling and/or thermostat setback for standard events and up to a maximum of four degrees setback for a limited number of high priority events each year.

Staff further recommends that the time period of thermostat temperature setback during demand response events for any individual participating thermostat may be up to three hours.

Staff further recommends customer notice of events will be provided not less than two hours in advance of an event or not less than one hour in advance for a limited number of high priority events with customers always having the ability to override any event by manually adjusting their thermostat settings.

Staff further recommends approval for APS to expand Cool Rewards eligibility to include qualifying small business customers in the program.

Staff further recommends APS clearly communicates all program modifications to participating customers.

C. Proposed New Pilot Programs

1. EV Demand Management Pilot Program

APS is proposing to launch a new EV Charging Demand Management Pilot Program ("EV Pilot Program") to address the growing electric demand from EV charging. This Pilot Program will work with vehicle fleets, charging station infrastructure, and individual EV owners to gather data on EV charging behavior and to encourage off-peak charging to manage peak demand. The EV Pilot Program will target all EV owners within APS service territory and will include the following elements:

- **EV Charging Baseline Data:** APS will install data collection devices in participating EV vehicles to track and record their charging activity and provide baseline data on current EV charging behavior.
- **Beneficial Charging Behavior:** After establishing a baseline charging behavior, the program may then launch a rewards program for EV owners that would offer reward points in exchange for charging during off-peak hours.
- **EV Charging Station Direct Load Control:** It will work with EV charging station providers to connect EV charging stations into the APS Rewards distributed energy resource operating platform.

Pilot participants who allow a charge tracking device to be installed in their car, will receive an incentive of approximately \$85 per year, based on an estimated \$25 sign up incentive and a \$5 per month incentive for providing ongoing data. APS will evaluate the baseline data to determine the specific design of any future rewards points or other incentives to encourage off-peak charging behavior. In addition, APS states it may provide up to \$20,000 of incentives within the 2020 budget to encourage commercial EV charging stations to pilot the connected demand response element of the program.

If approved, APS plans to begin pilot implementation right after Commission approval via existing program implementation contractors and delivery channels to ensure integration with other potential DSM opportunities for customers and to leverage other program infrastructure and delivery channels. With this integrated approach, APS estimates the EV Pilot Program offerings could be available to customers within 180 days after Commission approval.

The Company is proposing a \$160,000 budget for the EV Pilot Program.

As EVs become more popular, more research is needed to further understand their charging activity and behavior in order to develop effective and efficient demand responses for EVs and their infrastructure. Staff recommends approval of the proposed EV Pilot Program for Residential and Non-Residential customers. Staff further recommends APS reports on the programs results in its DSM Annual Progress Report.

2. Reverse Demand Response Pilot Initiative (DSM Initiative)

APS is proposing a new Reverse Demand Response Pilot Initiative that will work with qualifying non-residential facilities to identify opportunities for dispatching loads in response to negative pricing events. In this pilot, customers would identify beneficial but non-essential loads that could be operated in response to an event signal. These loads would be sub-metered and provided with no-cost energy during these event periods.

To be eligible for this initiative, the dispatchable customer load must have a demand of at least 30 kW. As part of the pilot costs, APS would provide the sub-metering and communications infrastructure needed at the facility to enable calling reverse demand response events. There would be no ongoing incentive for participation, but customers will receive the benefits of free energy during reverse demand response event periods. Lastly, APS proposes to limit the pilot to no more than \$200,000 in total spending in 2020.

Staff believes this proposed pilot measure could highly benefit participating customers. Staff recommends approval of the Reverse Demand Response Pilot Initiative. Staff further recommends APS report on the program results and benefits in the DSM Annual Progress Report.

D. *Energy Savings and Continue Waiver of Ten Percent Cap in A.A.C. R14-2-2404(C)*

The 2020 DSM Plan was designed with the goal of providing 22 percent of its retail sales from cost-effective demand-side management and energy efficiency programs, as required by the

EE Rules². APS forecasts their 2020 Plan will provide an estimated energy savings total of 6,455,690 MWh by the end of 2020, which represents 23.6 percent of the Company's adjusted 2019 retail sales. The table below provides a breakdown of the projected energy savings.

Source of Projected Savings	Projected Savings
Residential Programs	116 MW and 123,000 MWh
Non-Residential Programs	29 MW and 107,000 MWh
DSM Initiatives	99 MW and 434,000 MWh
Total Estimated First Year Energy Savings (including the conversion of demand response MW savings into MWh)	664,000 MWh
Total Cumulative Savings to Date (Including credit for Pre-EE Rules savings)	5,791,690 MWh
Total estimated cumulative savings by the end of 2020	6,455,690 MWh

A.A.C. R14-2-2404(C)³ limits the amount of peak demand reduction from demand response and load management programs that a utility may count towards its compliance with the EE Rules to ten percent of each year's goal. APS is requesting a continued waiver of the ten percent cap so it may count all energy savings from demand response and load management programs towards compliance with the EE Rules.

In Decision No. 76313, APS was granted a waiver so that all energy saved in its 2017 DSM Plan could be counted towards the DSM goal. APS is proposing to continue current, as well as add new, demand response and load management programs, which will quickly reach the ten percent cap, thus, not all energy saved would be counted towards the EE Rules. Staff recommends approval to continue the existing waiver of the 10 percent cap set forth in A.A.C. R14-2-2404(C).

² A.A.C. R14-2-2404(A) "An affected utility shall, through cost-effective [DSM] and [EE] programs, achieve cumulative annual energy savings, measured in kWh, equivalent to at least 22 percent of the affected utility's retail electric energy sales for calendar year 2019.

³ "An affected utility's measured reductions in peak demand resulting from cost-effective demand response and load management programs may comprise up to two percentage points of the 22 percent [EE] standard, with peak demand reduction capability from demand response converted to an annual energy savings equivalent based on an assumed 50 percent annual load factor. The credit for demand response and load management peak demand reductions shall not exceed ten percent of the [EE] standard set forth in subsection (B) for any year. The measured reductions in peak demand occurring during a calendar year after the effective date of this Article may be counted for that calendar year even if the demand response or load management program resulting in the reductions was implemented prior to the effective date of this Article."

E. Requests and Waiver

1. Waiver to the Budget Requirements Set Forth in Decision No. 74406 and Allow a 75 Percent Shift of Unused Funds

Decision No. 74406 raised APS' budget shifting limit from 25 percent to 50 percent to allow APS to mitigate the impact of a reduced budget while effectively responding to market needs among program segments. However, the funds budgeted for the low-income weatherization customers and schools programs were prohibited from being shifted to other programs.

In its 2020 DSM Plan, APS is requesting, for the remainder of 2020, a waiver of the 50 percent budget shifting allowance. In its place, the Company, citing the COVID-19 pandemic, is requesting to shift up to 75 percent of unused program funds from one program to another and between customer segments. APS states that these changes will only be in effect until December 31, with the original 50 percent budget shifting allowance set forth in Decision No. 74406 back in effect January 1, 2021. If approved, the Company commits, for the waiver period, to provide quarterly spend reports, notices of program modifications within ten days of change(s) beyond the current guidelines, and continued compliance with all non-dated requirements.

The COVID-19 pandemic has undoubtedly affected utilities all over Arizona and its customers' needs causing uncertain impacts to program participation. Staff recommends approval to waive the current budget requirements set forth in Decision No. 74406.

Staff further recommends APS be allowed to shift up to 50 percent, instead of 75 percent, of unused program funds from one program to another and between customer segments upon providing a 60-day notice to the Commission for review and approval.

Staff further recommends these changes only be in effect until December 31, with the original budget requirements set forth in Decision No. 74406 back in effect January 1, 2021.

2. Ability to Increase/Decrease Incentives

APS is requesting the ability to both increase and decrease incentives upon providing 30-day notice, including justification for the change, to the Commission.

Staff recommends the Commission grant APS the ability to both increase and decrease incentives upon giving a 60-day notice to the Commission for review and approval.

F. Proposed Budget and DSMAC

APS is proposing a \$51,928,000 million budget and to maintain the current \$0.000982 per kWh and \$0.353 per kW DSMAC charges approved in Decision No. 76313. The Company is further proposing to use \$3,284,124 in collected but unspent funds in the DSMAC balance account to fund the 2020 DSM program budget without needing to increase DSMAC collections.

In accordance with Decision No. 76313, APS is funding the Rewards Initiative with collected, but unspent funds, from the DSMAC balancing account. In 2020, the total of \$1,928,000 in remaining funds originally earmarked for the Rewards program will be used to fund remaining energy storage and load management technology installation. The table below shows the 2020 revenue requirements for the DSMAC.

Total 2020 DSM Budget	\$51,928,000
Amount Recovered in Base Rates	(\$20,000,000)
Collected and Allocated to Rewards	(\$1,928,000) *
Collected but Unspent DSMAC Funds	(\$3,284,124) *
Subtotal	\$26,715,876
Gain on Sale of Assets Balance	(\$229,537)
DSMAC Revenue to be Collected (12-month period)	\$26,486,339

*Funds from DSMAC Balancing Account

The following table depicts APS' anticipated 2020 DSM program costs broken down by spending category.

Program	Rebates and Incentives	Program Implementation	Program Marketing	Planning and Administration	Training/Technical Assistance	Consumer Education	Financing	Total Program Cost
RESIDENTIAL								
Existing Homes	\$5,939,699	\$1,080,500	\$225,000	\$399,288	\$445,000	\$0	\$0	\$8,089,487
New Construction	\$2,042,500	\$625,000	\$30,000	\$190,000	\$20,000	\$20,000	\$0	\$2,927,500
Multi-Family EE	\$1,002,500	\$253,719	\$5,000	\$130,000	\$190,000	\$227,000	\$0	\$1,808,219
Limited Income Weatherization	\$6,059,000	\$305,000	\$0	\$240,000	\$51,000	\$350,000	\$0	\$7,005,000
Conservation Behavior	\$599,950	\$1,220,000	\$0	\$80,000	\$0	\$0	\$0	\$1,899,950
Total for Residential	\$15,643,649	\$3,484,219	\$260,000	\$1,039,288	\$706,000	\$597,000	\$0	\$21,730,156
NON-RESIDENTIAL								
Existing Facilities	\$5,708,363	\$2,008,176	\$200,000	\$375,500	\$870,000	\$150,000	\$0	\$9,312,039
New Construction & Major Renovation	\$681,305	\$435,617	\$20,000	\$58,150	\$45,000	\$0	\$0	\$1,240,072
Energy Information Services	\$112,800	\$205,500	\$10,000	\$6,000	\$15,000	\$0	\$0	\$349,300
Schools	\$1,195,236	\$470,000	\$30,000	\$50,000	\$60,000	\$35,000	\$0	\$1,840,236
Total for Non-Residential	\$7,697,704	\$3,119,293	\$260,000	\$489,650	\$990,000	\$185,000	40	\$12,741,647
DSM INITIATIVES								
Demand Response	\$0	\$2,000,000	\$0	\$230,000	\$0	\$0	\$0	\$2,230,000
Rewards	\$3,754,862	\$1,976,000	\$25,000	\$250,000	\$0	\$0	\$0	\$6,005,862

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Building Code & Appliance Standards	\$0	\$80,000	\$0	\$20,000	\$100,000	\$0	\$0	\$200,000
APS System Savings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EV Charging Demand Management	\$37,500	\$82,500	\$15,000	\$10,000	\$5,000	\$10,000	\$0	\$160,000
Subscription Rates Pilot Study	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Energy & Demand Education	\$0	\$414,959	\$0	\$310,000	\$200,000	\$4,729,376	\$0	\$14,250,197
Totals for DSM Initiatives	\$3,792,362	\$4,553,459	\$40,000	\$820,000	\$305,000	\$4,739,376	\$0	\$14,250,197
Segment Totals	\$27,133,715	\$11,156,971	\$560,000	\$2,348,938	\$2,001,000	\$5,521,376	\$0	\$48,722,000

Program Costs	\$48,722,000
Measurement, Eval & Research	\$3,206,000
TOTAL 2020 DSM BUDGET	\$51,928,000

Staff recommends a \$51,592,500 budget for APS' 2020 DSM Plan. Staff's recommended budget eliminates the budgets from programs/measures it recommended denial for, from the overall DSM Plan budget.

Staff further recommends approval for APS to use \$3,284,124 from funds in the DSMAC balance account to fund the 2020 DSM program budget without needing to increase DSMAC collections.

Staff further recommends APS maintain the current \$0.000982 per kWh and \$0.353 per kW DSMAC charges approved in Decision No. 76313.

The table below reflects Staff's recommended budget.

Program	Total Cost
RESIDENTIAL	
Existing Homes	\$8,049,487
New Construction	\$2,815,000
Multi-Family EE	\$1,700,719
Limited Income Weatherization	\$7,005,000
Conservation Behavior	\$1,899,950
Total for Residential	\$21,470,156
NON-RESIDENTIAL	
Existing Facilities	\$9,236,539
New Construction & Major Renovation	\$1,240,072
Energy Information Services	\$349,300
Schools	\$1,840,236
Total for Non-Residential	\$12,666,147
DSM INITIATIVES	
Demand Response	\$2,230,00

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Rewards	\$6,005,862
Building Code & Appliance Standards	\$200,000
APS System Savings	\$0
EV Charging Demand Management	\$160,000
Subscription Rates Pilot Study	\$0
Energy & Demand Education	\$5,654,335
Total for DSM Initiatives	\$14,250,197
Segment Totals	\$48,386,500

Program Costs	\$48,386,500
Measurement, Eval, & Research	\$3,206,000
Staff's Total 2020 DSM Budget	\$51,592,500*

*The Staff budget might include dollars for incentives for the proposed Connected Pool Pump Controls pilot measure, which Staff is not recommending approval of. Total budget for this item was not detailed by APS so Staff was not able to back it out of the total budget.

RECOMMENDATIONS

Below are Staff's recommendations regarding the proposed new/modified measures/programs, as discussed herein, to the APS 2020 DSM Plan.

- Staff has recommended approval of the proposed Residential Existing Homes Program as discussed herein.
- Staff has recommended approval of the Residential Conservation Behavior Program expansion as discussed herein.
- Staff has recommended approval of the previously approved Energy and Demand Education Pilot as a new element to the Residential Conservation Behavior Program as discussed herein. Staff has further recommended approval of its gateway device measure and recommended a customer incentive of 35 percent incremental cost, or \$35 per household device, with flexibility to adjust incentives up to a maximum 50 percent of incremental cost.
- Staff has recommended approval of the Non-Residential Existing Facilities Program as discussed herein. Staff further recommended APS continue to track and report program participation from small business customers separately in its DSM Annual Progress Reports.
- Staff has recommended approval of the Non-Profit Program for both the Non-Residential Existing Facilities and New Construction Programs as discussed herein.

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- Staff has recommended the Non-Profit Program be separately tracked and recorded within the Non-Residential Existing Facilities and New Construction Programs as discussed herein.
- Staff has recommended approval of the proposed expansions to the Non-Residential Energy Information Services Program as discussed herein.
- Staff has recommended approval of the proposed System Savings Projects Initiative as discussed herein.
- Staff has recommended approval of the proposed Building Codes and Appliance Standards Initiative as discussed herein.
- Staff has recommended approval of the proposed Energy and Demand Education Initiative as discussed herein.
- Staff has recommended approval to consolidate the T & D Pilot into the Rewards Initiative as discussed herein.
- Staff has recommended approval to consolidate the Load Management Technologies Pilot into the Rewards Initiative as discussed herein.
- Staff has recommended a temporary incentives increase of \$800 per unit for the Residential HVAC Quality Installation Program for all qualifying SEER and 15 SEER and above units. Staff further recommended the program return to its currently approved requirements on January 1, 2021.
- Staff has recommended approval of Rate Optimized Smart Thermostats as a new measure for both Residential Existing Homes and Multi-Family Programs.
- Staff has recommended denial of Connected Water Heater Controls as a new pilot measure for both Residential Existing Homes and Multi-Family Programs.
- Staff has recommended denial of Connected Pool Pump Controls as a new Pilot measure for the Residential Existing Homes Program.
- Staff has recommended approval of EV Ready Pre-Wire as a new pilot measure for Residential New Construction Program.
- Staff has recommended APS work with participating homebuilders to design the EV Ready Pre-Wire Pilot Measure so that pre-wired EV homes are marketed to individuals or communities with the highest likelihood of owning an EV.
- Staff recommended denial of the Connected Water Heating as a new measure for both Residential New Construction and Multi-Family Programs.

- Staff has recommended denial of Induction Cooktops as a new pilot measure for both Residential New Construction and Multi-Family Programs.
- Staff has recommended approval of the Home Weatherization Upgrades to the Residential Limited Income Weatherization Program as discussed herein.
- Staff has recommended approval to temporary increase the funding cap for weatherization projects from \$6,000 to \$9,000 with the funding cap returning to \$6,000 on January 1, 2021.
- Staff has recommended approval to temporarily increase the Non-Residential HVAC Qualifying Incentives up to 75 percent of incremental costs with a maximum cap of no more than \$10,000 per unit for Existing Facilities and Schools Programs with the program returning to its previous incentives and requirements January 1, 2021.
- Staff has recommended approval of Compressed Air Drains as a new measure for both Non-Residential Existing Facilities and New Construction Programs.
- Staff has recommended approval of Upgraded Receivers as a new measure for the Non-Residential Existing Facilities Program.
- Staff has recommended approval of Data Center Computer Room AC's as a new measure for Non-Residential Existing Facilities, New Construction, and Schools Programs.
- Staff has recommended approval of Ultrasonic Humidification as a new measure for the Non-Residential Existing Facilities Program.
- Staff has recommended approval of Networked Thermostats as a new measure for Non-Residential Existing Facilities and New Construction Programs.
- Staff has recommended approval of Standby Truck Refrigeration as a new measure for the Non-Residential Existing Facilities and New Construction Programs.
- Staff has recommended approval of Electric Forklifts as a new measure for the Non-Residential Existing Facilities and New Construction Programs.
- Staff has recommended approval of Baggage Tugs, and Belt Loaders, as new measures for the Non-Residential Existing Facilities Program.
- Staff has recommended denial of Push Back Tugs a new measure for Non-Residential Existing Facilities.

- Staff has recommended approval of the proposed modifications to Custom, Whole Building and Retro-Commissioning Incentives for the Non-Residential Existing Facilities and Schools Programs as discussed herein.
- Staff has recommended approval of the \$50 enrollment incentive for the Cool Rewards Program.
- Staff has recommended the temperature range for Cool Rewards events be up to three degrees of pre-cooling and/or thermostat setback for standard events and up to a maximum of four degrees setback for a limited number of high priority events each year.
- Staff has recommended the time period of thermostat temperature setback during Cool Rewards demand response events for any individual participating thermostat may be up to three hours.
- Staff has recommended customer notice of Cool Rewards events will be provided not less than two hours in advance of an event or not less than one hour in advance for a limited number of high priority events with customers always having the ability to override any event by manually adjusting their thermostat settings.
- Staff has recommended approval for APS to expand Cool Rewards Program eligibility to include qualifying small business customers in the program.
- Staff has recommended APS clearly communicates all Cool Rewards Program modifications to participating customers as discussed herein.
- Staff has recommended approval of the proposed EV Pilot Program for Residential and Non-Residential customers as discussed herein.
- Staff has recommended APS report results of the EV Pilot Program in its DSM Annual Progress Report.
- Staff has recommended approval of the Reverse Demand Response Pilot as a new DSM Initiative as discussed herein.
- Staff has recommended APS report the results and benefits of the Reverse Demand Response Pilot Initiative in its DSM Annual Progress Report.
- Staff has recommended approval for APS to continue its existing waiver of the ten percent cap set forth in A.A.C. R14-2-2404(C) so that it can count all savings from demand response and load management programs towards compliance with the EE Rules.

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- Staff has recommended approval to temporarily waive APS' current 50 percent budget shift requirements set forth in Decision No. 74406, until December 31, 2020, with the waiver expiring January 1, 2021.
- Staff has recommended APS be allowed to temporarily shift up to 50 percent of unused program funds from one program to another and between customer segments upon providing a 60-day notice to the Commission for review and approval. Staff further recommended these changes only be in effect until December 31, with the original budget requirements set forth in Decision No. 74406 back in effect January 1, 2021.
- Staff has recommended the Commission grant APS the ability to both increase and decrease incentives upon giving a 60-day notice to Commission for review and approval.
- Staff has recommended a \$51,592,5000 budget for the 2020 DSM Plan.
- Staff has recommended APS may use \$3,284,124 from funds in the DSMAC balance account to fund the 2020 DSM program budget.
- Staff has recommended APS maintain the current \$0.000982 per kWh and \$0.353 per kW DSMAC charges approved in Decision No. 76313.



Elijah O. Abinah
Director
Utilities Division

EOA:SGP:elr\MAS

ORIGINATOR: Sofia Peirats

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On this 15th day of September, 2020, the foregoing document was filed with Docket Control as a Utilities Division Memorandum & Proposed Order, and copies of the foregoing were mailed on behalf of the Utilities Division to the following who have not consented to email service. On this date or as soon as possible thereafter, the Commission's eDocket program will automatically email a link to the foregoing to the following who have consented to email service.

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Administrative Support Specialist

1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

2 ROBERT "BOB" BURNS

Chairman

3 BOYD DUNN

Commissioner

4 SANDRA D. KENNEDY

Commissioner

5 JUSTIN OLSON

Commissioner

6 LEA MÁRQUEZ PETERSON

Commissioner

7 IN THE MATTER OF THE APPLICATION
8 OF ARIZONA PUBLIC SERVICE
9 COMPANY FOR A RULING RELATING
10 TO ITS 2020 DEMAND SIDE
11 MANAGEMENT IMPLEMENTATION
12 PLAN

DOCKET NO. E-01345A-19-0088

DECISION NO. _____

ORDER

12 Open Meeting

13 Phoenix, Arizona

14 BY THE COMMISSION:

15 FINDINGS OF FACT

16 1. Arizona Public Service Company ("APS" or "Company") is certificated to provide
17 electric service within portions of Arizona, pursuant to authority granted by the Arizona Corporation
18 Commission ("Commission").

19 **Background**

20 2. On December 30, 2019, APS filed an application with the Commission requesting
21 approval of its 2020 Demand Side Management Plan ("DSM Plan", "2020 DSM Plan", "Plan" or
22 "Original Plan") in compliance with the Electric Energy Efficiency Standards ("EE Rules") set forth
23 in Arizona Administrative Code ("A.A.C.") R14-2-2401 through R14-2-2419. This DSM Plan
24 completely replaces APS' previous 2018 and 2019 DSM Plan filings.

25 3. On May 15, 2020, APS filed an Amended 2020 DSM Plan ("Amended Plan") in
26 order to respond to the COVID-19 pandemic. All elements of the Original Plan remain the same
27 except where specifically modified in the Amended Plan. Per the Company's request, those items
28 specifically modified in the Amended Plan will replace the Original Plan.

4. APS requests the Commission:

1. Approve its 2020 DSM Plan as discussed in Exhibit A of the Company's application except where specifically modified in the Amended Plan;
2. Approve its Amended Plan in its entirety as discussed in Exhibit A of the Company's Amended Plan filing;
3. Continue the waiver of the ten percent cap in A.A.C. R14-2-2404(C);
4. For the remainder of 2020, grant APS a waiver to the budget requirements set forth in Decision No. 74406 (March 19, 2014), which allow APS to shift 50 percent of a program budget;
5. Allow APS to shift unused funds from one program to another up to 75 percent of an individual budget and between customer segments as needed;
6. Grant APS the ability to both increase, and decrease incentives upon providing a 30-day notice, including justification for the change, to the Commission;
7. Approve a 2020 DSM budget of \$51.9 Million; and
8. Maintain the DSM Adjustment Charge ("DSMAC") approved in Decision No. 76313 (August 23, 2017).

Program Summary with Staff Analysis and Recommendations*2020 DSM Plan*

5. In its 2020 DSM Plan, APS is proposing a modified structure to its current portfolio, which includes a combination of previously approved DSM programs and measures targeted to multiple customer segments. APS intends to continue the programs and incentive levels unless otherwise specified herein, approved in Decision No. 76313. The 2020 DSM Plan proposes new programs and measures designed specifically to help customers who have been impacted by COVID-19.

6. The focus of Commission Utilities Division Staff's ("Staff") review is on the new, amended, and/or expanded measures proposed in APS' 2020 DSM Plan. The table below is a side by side of APS' current and proposed DSM Portfolios.

Current DSM Portfolio	Proposed 2020 DSM Portfolio
<u>Residential Programs:</u> -Consumer Products -Existing Homes HVAC -Home Performance with ENERGY STAR -Residential New Construction -Limited Income Weatherization -Multi-Family EE -Conservation Behavior	<u>Residential Programs:</u> -Existing Homes (Includes Consumer Products, HVAC; and Home Performance with ENERGY STAR) -Residential New Construction -Limited Income Weatherization -Multi-Family EE -Conservation Behavior
<u>Non-Residential Programs (Solutions for Business):</u> -Large Existing Facilities -Small Business -New Construction and Renovation -Schools -Energy Information Services	<u>Non-Residential Programs (Solutions for Business):</u> -Existing Facilities (Includes Large Existing Facilities and Small Business) -New Construction and Major Renovation -Schools -Energy Information Services
<u>DSM Initiatives (Serving both Residential and Non-Residential Segments):</u> -Codes and Standards Initiative -Demand Response -APS System Savings Initiative -Transmission and Distribution ("T & D") Pilot -Load Management Technology Pilot -Energy and Demand Education Initiative	<u>DSM Initiatives (Serving both Residential and Non-Residential Segments):</u> -Demand Response -Energy Load and Management (Rewards) -EV Charging Demand Management -Subscription Rate Pilot -Building Codes and Applicable Standards -APS System Savings -Energy and Demand Education

7. Staff conducted a cost-benefit analysis in accordance with A.A.C. R14-2-2412(B), which requires that the Societal Test be used for determining the cost-effectiveness of a DSM program or measure. Under the Societal Test, in order to be cost-effective, the ratio of benefits to costs must be greater than one. Staff used this method to determine if a program/measure is cost-effective and based the recommendations accordingly.

8. APS is proposing the following in its 2020 DSM Plan:

A. Program Expansions and/or Changes

1. Existing Homes Program (Residential)

9. APS is proposing to combine the current Consumer Products, Existing Homes HVAC, and Home Performance with ENERGY STAR programs into one program for Existing

1 Homes. Combining the programs will allow easy access to all the DSM program savings
2 opportunities that are available for existing homes.

3 10. Based on Staff's analysis and review of the information provided, Staff believes that
4 combining the Consumer Products, Existing Homes HVAC, and Home Performance with ENERGY
5 STAR programs into the Existing Homes Program will benefit customers and local trade allies by
6 providing convenience and making it easier to find all DSM opportunities available for existing
7 homes. This proposed program design change will not eliminate or modify any of the currently
8 approved measures or delivery channels in each of the current programs; it will only combine these
9 measures into a single comprehensive program. Staff recommends approval of the proposed
10 Residential Existing Homes Program.

11 2. Conservation Behavior Program (Residential)

12 11. The Conservation Behavior Program is an existing program that motivates energy
13 savings by providing Home Energy Reports ("HERS"), emails, and online information to
14 participating households. The program shows participants a profile of their energy use, how it
15 compares to similar homes, and offers them customized tips.

16 12. In the 2020 DSM Plan, APS plans to expand the Program to deliver personalized
17 seasonal HERS by Email ("eHERS") for up to 400,000 participating households. The Company
18 also plans to expand the use of HERS to help limited income customers by introducing a new HERS
19 delivered to all APS limited income customers in the APS Energy Support Program. Furthermore,
20 APS plans to utilize HERS to help educate customers and to promote other available energy saving
21 program opportunities and incentives.

22 13. In addition, APS plans to implement a new element to the program that will offer a
23 mobile phone app for customers, which provides an ongoing breakdown of how they're using energy
24 based on Advanced Metering Infrastructure ("AMI") data. Customers who wish to upgrade can
25 purchase an energy bridge (also called a gateway device), which will provide them with real time
26 feedback of their energy usage and demand. APS states that these devices currently retail at
27 approximately \$100 and the Company is proposing to offer customer incentives of around 50 percent
28 of incremental cost, or \$50/household device, with flexibility to adjust incentives up to a maximum

1 of 75 percent of incremental cost. It is budgeted to reach approximately 60,000 app users and up to
2 5,000 customers receiving real time information through a gateway device.

3 14. The proposed HERS Program expansion can be achieved with little to no extra cost
4 and it has no effect on the Program's cost-benefit analysis. Staff recommends approval of the
5 program expansion. To allow more customers to benefit from the energy and demand gateway
6 device measure, Staff further recommends a customer incentive of 35 percent incremental cost, or
7 \$35 per household device, with flexibility to adjust incentives up to a maximum 50 percent of
8 incremental cost.

9 3. Existing Facilities (Non-Residential)

10 15. APS is proposing to consolidate the Large Existing Facilities and Small Business
11 Programs into a single, comprehensive Existing Facilities Program for all Non-Residential
12 customers. APS states this will streamline program delivery, reporting and overhead costs, and will
13 help maintain cost-effectiveness in the Small Business program segment. The Company also states
14 that this change is largely confined to administration only since it is already marketed to customers
15 as one comprehensive Solutions for Business program. Furthermore, APS says it will continue to
16 separately track, and report, program participation from small business customers in its DSM Annual
17 Progress Reports.

18 16. The proposed design change will not affect any of the programs and/or its measures;
19 it will only combine the Large Existing Facilities and the Small Business programs, along with their
20 respective measures, to form the Existing Facilities (Non-Residential) Program. Staff recommends
21 approval of the Existing Facilities (Non-Residential) Program.

22 17. To ensure small businesses are taking advantage of all the DSM incentives available
23 to them, Staff further recommends APS continues to track and report program participation from
24 small business customers separately in its DSM Annual Progress Reports.

25 4. Non-Profit Program (Non-Residential)

26 18. On February 19, 2020, pursuant to Decision No. 75323 (November 25, 2015), APS
27 provided notice that it was going to offer the same cost-effective DSM measures offered in the
28 Schools Program to qualifying non-profit community organizations effective April 1, 2020.

19. Decision No. 75323 allows APS to offer any Commission approved EE measure, from a specific Company Program, to any other program if the measures remains cost-effective. APS states the measures would remain cost-effective for the expanded list of participants and that it will not increase the overall 2020 DSM Budget.

20. The 2020 DSM Plan proposes to add the new Non-Profit Program within the Non-Residential Existing Facilities and New Construction Programs. This Program will allow qualifying non-profit facilities to access the list of special incentives available within the Schools Programs. APS' objective is to help these organizations reduce their energy costs through EE projects, so they can lower operating expenses and devote more resources to the community.

21. In order to qualify, organizations must submit documentation of their 501(3)(C) tax designation as proof of their non-profit status.

22. The Non-Profit Program will be separately tracked and recorded within the Non-Residential Existing Facilities and New Construction Programs.

23. The table below lists the measures that will be expanded to qualifying non-profit, 501(C)(3), organizations within the Non-Residential Existing Facilities and New Construction programs:

Delamping	Lighting Power Density	Reach in Cooler Controls	Floating Head Pressure Control
LED Exit Signs	Outdoor Lights	Anti-Sweat Heater Control	Evaporate EC Fan Motor
Linear LEDs	EE Refrigerator	Beverage Machine Controller	Efficient Condenser
LED Bulbs	EE Freezer	Snack Machine Controller	Efficient Compressor
Refrigerated Case LED	Strip Curtains	Automatic Door Closer	

24. Staff believes that community non-profit organizations should have access to the list of special incentives available to the Schools Program and recommends approval of the Non-Profit Program for both the Non-Residential Existing Facilities and New Construction Programs.

25. Staff further recommends the Non-Profit Program be separately tracked and recorded within the Non-Residential Existing Facilities and New Construction Programs.

1 5. Energy Information Services (Non-Residential)

2 26. APS has included funding in their 2020 DSM Plan to support enhanced education,
3 training and technical assistance support for Non-Residential customers and trade ally contractors
4 who deliver energy services to this sector. This includes providing support for DSM measures where
5 APS is currently offering incentives and technical support for DSM measures where incentives are
6 not offered. In 2020, APS plans to enhance trade ally training with an online learning platform and
7 with an online and onsite customer facility energy assessments.

8 27. Staff recommends approval of the proposed expansions to the Non-Residential
9 Energy Information Services Program.

10 6. APS System Savings Initiative (“DSM Initiatives”)

11 28. APS is proposing the following System Savings Projects:

- 12 • Operation of Conservation Voltage Reduction systems on an estimated 12
- 13 distribution feeders throughout the APS service territory in 2020; and
- 14 • EE upgrades to APS facilities
- 15

16 29. Furthermore, APS intends to count an estimated annual energy savings of 5,200
17 Megawatt-Hours (“MWhs”) toward the EE Rules from these proposed System Savings Projects.

18 30. Staff recommends approval of the proposed System Savings Projects Initiative.

19 7. Building Codes and Appliance Standards (DSM Initiatives)

20 31. The Building Codes and Appliance Standard Initiative encourages energy savings by
21 supporting better compliance with energy efficiency building codes and appliance standards in
22 jurisdictions throughout the APS service territory. In 2020, APS intends to continue and expand
23 current program efforts supporting codes and standards related energy savings. APS estimates
24 approximately 27,000 MWhs of savings from the Building Codes and Appliance Initiative in 2020.

25 32. Staff recommends approval of the proposed Building Codes and Appliance Standards
26 Initiative.

27 ...

28 ...

8. Energy and Demand Education Initiative (DSM Initiatives)

33. The Education and Demand Education Initiative Program was approved in Decision No. 76313, and it provides customers with energy usage information tools and resources to help them better manage their energy use and demand. In 2020, APS proposes to introduce new energy information tools including web-based energy and demand analyzers, while continuing ongoing support and enhancements to the current educational tools available to residential and non-residential customers.

34. Staff recommends approval of the proposed Energy and Demand Education Initiative.

9. Transmission & Distribution ("T & D") Pilot (DSM Initiatives)

35. APS is proposing to consolidate the T & D Pilot into the Demand Response, Energy Storage and Load Management ("Rewards") Initiative. The T & D Pilot was originally included in APS' 2017 DSM Plan as a pilot funded outside of DSM. Its purpose was to provide information on benefits from improved system operations that may be gained by targeting DSM opportunities at the substation level. Subsequently, APS launched the Rewards Initiative, which is being targeted at the feeder/substation level. APS states that this initiative has become the T & D Pilot, so a separate program is no longer needed.

36. Staff recommends approval to consolidate the T & D Pilot into the Rewards Initiative.

10. Load Management Technologies Pilot (DSM Initiatives)

37. The Load Management Technologies Pilot was originally included in APS' 2017 DSM Plan as a pilot initiative funded outside of DSM seeking to deploy commercially available load control and load shifting technologies for residential and non-residential customers. APS is proposing to consolidate this pilot into the Rewards Initiative that will leverage the technology learnings gained from the pilot.

38. Staff recommends approval to consolidate the Load Management Technologies Pilot into the Rewards Initiative.

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1 B. *Proposed Modified and/or New Measures*

2 1. HVAC Quality Installation Program Modification (Residential)

3 39. The HVAC Quality Installation Program offers customers a \$200 per unit incentive
4 to replace their aging HVAC system with a newer, more energy efficient one. Given the COVID-
5 19 pandemic, APS is proposing temporary modifications to this program for the 2020 program year.
6 The Company requests that, if approved, the modifications only be in effect until the end of the year,
7 with the program returning to the currently approved program requirements effective January 1,
8 2021. APS proposes the following temporary program modifications:

- 9
- 10 • Increase the incentive for eligible residential HVAC replacements to \$1,000
11 per unit for all qualifying Seasonal EE Ratio ("SEER") units, and to \$1,200
per unit for all qualifying equipment 15 SEER and above.

12 40. To qualify for the proposed increased incentives, APS's customers must meet the
13 following requirements:

- 14
- 15 a. The HVAC unit must be an emergency replacement of existing HVAC
16 equipment that has failed or is failing. The incentive does not apply to early
17 replacement of working equipment, or to new HVAC units that are not
replacing existing equipment.
 - 18 b. Customers must self-attest that they have become unemployed due to the
19 COVID-19 pandemic and will be required to sign a form that confirms they
20 meet the program qualifications.
 - 21 c. HVAC units must be replaced before December 31, 2020, or until funding is
22 no longer available, whichever comes first.
 - 23 d. Customers must meet all other current program requirements.

24 41. Customers who do not meet the conditions above may still receive the current
25 \$200/unit incentive if they meet all other current program requirements.

26 42. The HVAC Quality Installation Incentives are part of currently approved cost-
27 effective measures and increasing them has no effect on cost-effectiveness. Staff believes that with
28 a temporary increase to the incentive increase is appropriate but recommends an \$800/unit incentive

1 for both qualifying SEER and 15 SEER and above units instead of the requested \$1,000/unit and
2 \$1,200/unit. The recommended temporary \$800/unit incentive will allow for more customers to
3 benefit from the program.

4 43. Staff further recommends the Residential HVAC Quality Installation Program return
5 to its currently approved requirements on January 1, 2021.

6 2. Rate Optimized Smart Thermostats (Residential)

7 44. APS is proposing to add a new smart thermostat measure, in which qualifying
8 customers will receive a free Rate Optimized Smart ("ROS") Thermostat that will allow APS to
9 automatically adjust customers' thermostat operations during peak demand periods to help shift
10 energy use and reduce on-peak energy costs.

11 45. This measure targets both single family and multi-family residents, and to qualify,
12 customers must agree to be on an advanced rate plan and participate in the residential APS Cool
13 Rewards Smart Thermostat Demand Response Program for at least one summer season (June 1-
14 September 30).

15 46. Customers can install the thermostats themselves, but APS will also offer a reduced
16 installation cost through participating contractors.

17

ROS Thermostats Measure	Cost-Benefit Ratio
Existing Homes	1.98
Multi-Family	1.67

18
19

20 47. Staff recommends approval of ROS Thermostats as a new measure for both
21 Residential Existing Homes and Multi-Family Programs.

22 3. Connected Water Heater Controls Pilot (Residential)

23 48. This proposed pilot measure would offer direct installed connected water heater
24 controls, which are water heater timers, for eligible participating customers who receive an on-site
25 Home Performance energy audit. A water heater timer is a small electronic device that fits onto
26 customer's water heater and allows them to set specific periods for hot water production and
27 maintenance. This measure targets both Existing Homes and Multi-Family residents and to
28 participate, customers must have electric water heating and agree to be on an advanced rate plan

(new Time of Use ("TOU") or demand rate).

49. APS states that the program will be delivered through direct install home performance contractors who will directly install and configure the timers for participating customers. Furthermore, customers may elect to pay a small fee to upgrade to smart technology that offers additional features including leak detection and mobile phone applications that can remotely monitor and adjust water heater settings.

Connected Water Heater Controls Pilot (Timers)	Cost-Benefit Ratio
Existing Homes	0.40
Multi-Family	0.45

50. Staff found this measure to not be cost-effective and recommends denial of Connected Water Heater Controls as a new pilot measure for both Residential Existing Homes and Multi-Family Programs.

4. Connected Pool Pump Controls Pilot (Residential)

51. APS is proposing to add connected pool pump controls as a new pilot measure for Existing Homes. In this proposed measure, customers would receive an incentive for a device that would allow them to remotely monitor and change pump settings. The Company is proposing an average incentive of \$30 per qualifying device, with the flexibility to adjust the incentive up or down in response to market conditions, with a maximum not to exceed 75 percent of the product's incremental cost.

52. Initially, APS did not provide Staff with the necessary information needed to run a cost-benefit analysis. After Staff received the information, it ran a cost-benefit analysis and determined that with a cost-benefit ratio of 0.14 the pool pump controls are not cost-effective.. Staff recommends denial of Connected Pool Pump Controls as a new pilot measure for the Residential Existing Homes Program.

5. Electric Vehicle ("EV") Ready Pre-Wire (Residential)

53. This proposed pilot measure targets Residential New Construction customers and will offer an incentive of \$100 per home to participating homebuilders who make their homes "EV Ready" by pre-wiring the garages to support future installation of EV charging stations.

1 54. This will be a prescriptive incentive available to all homebuilders (subject to budget
2 availability) regardless of their participation in the APS ENERGY STAR Homes program. In order
3 to qualify for an EV Ready incentive, participating homes must meet all the following criteria:

- 4 • Must include a dedicated 240-volt, 40-amp plug-in ready circuit with NEMA
5 14-50 outlet, or equivalent, in vehicle parking area.
- 6 • Installation must meet the requirements of the National Electric Code as well
7 as any applicable local building code requirements.

8 55. After conducting a cost-benefit analysis, Staff determined the proposed pilot measure
9 had a 0.0 cost-benefit ratio, but because EV measures use electricity and replace vehicles, which do
10 not. A standard EE evaluation based on the Societal Test would not be informative as to cost-
11 effectiveness. However, past cost-benefit comparisons on similar programs indicate that the EV
12 Ready Pre-Wire Pilot Measure is likely to be cost-effective in a new home that has at least one EV¹.

13 56. Staff recommends approval of EV Ready Pre-Wire as a new pilot measure for
14 Residential New Construction Program. Furthermore, since a new home wired to accommodate
15 EVs may or may not attract buyers with EVs, Staff also recommends that APS work with
16 participating homebuilders to design the EV Ready Pre-Wire Pilot Measure so that pre-wired EV
17 homes are marketed to individuals or communities with the highest likelihood of owning an EV.

18 6. Connected Water Heating (Residential)

19 57. APS is proposing to add a new connected electric water heating pilot measure. This
20 proposed pilot measure targets both new construction and multi-family customers and will offer
21 incentives of approximately \$200 per home to participating homebuilders, and associated trade
22 allies, who install qualifying connected electric hot water heaters in new homes.

23 58. The proposed builder incentive would be based on the total incremental cost of
24 including connected technology in the water heaters plus a builder incentive of \$25/home for
25 participation. Furthermore, APS states that it may offer this measure as an upstream incentive paid
26
27
28

¹ Tucson Electric Power Company's ("TEP") Smart Home EV Pilot Program (Decision No. 77085).

1 directly to product manufacturers/distributors to leverage these trade ally partners and reduce the
2 added cost of a connected water heater for participating new homes.

3 59. Qualifying water heaters may be standard electric resistance or heat pump water
4 heaters, but they must include communication modules and controls to allow for remote control of
5 temperature settings. Lastly, the buyers of these homes will have the opportunity to participate in
6 any future APS demand response programs that involve connected water heating technology.

7

Connected Water Heating	Cost-Benefit Ratio
New Construction	0.50
Multi-Family	0.50

9

10 60. Staff has found this proposed pilot measure is not cost-effective and recommends
11 denial of Connected Water Heating as a new measure for both Residential New Construction and
12 Multi-Family Programs.

13 7. Induction Cooktops (Residential)

14 61. This proposed new pilot measure targets both new construction and multi-family
15 customers and encourages homebuilders to install induction cooktops in their new communities.
16 Induction cooking uses magnetic currents to directly heat pots and pans, which allows the cooktop
17 to stay cooler. APS is proposing an average homebuilder incentive of \$200 per induction cooktop
18 with a volume not to exceed 1,000 participating new homes in 2020.

19 62. APS openly states that this measure does not currently pass the Commission's cost-
20 effectiveness test due to the higher cost of induction cooking, but the Company feels the
21 Commission's analysis doesn't account for all potential benefits. Furthermore, APS states that
22 proceeding with this pilot measure will allow them to gather more information on this technology.

23

Induction Cooktops	Cost-Benefit Ratio
New Construction	0.01
Multi-Family	0.01

25

26 63. Induction Cooktops undoubtedly offer some benefits; however, they are a relatively
27 new technology and cost more than the same sized traditional cooktop. Furthermore, induction
28 cooktops require special cookware for the induction process to work correctly magnetic cookware

1 must be used.

2 64. Given the extra cost of induction cooktops, the need for special cookware, and the
3 fact that this measure does not pass the Commission's cost-benefit analysis test, Staff recommends
4 denial of Induction Cooktops as a new pilot measure for both the Residential New Construction and
5 Multi-Family Programs.

6 8. Limited Income Weatherization (Residential)

7 65. This Program provides support to those residential customers who have the most
8 difficulty affording their energy costs. In 2020, the program plans to partner with local
9 weatherization agencies and a non-profit multifamily rehabilitation project expert to encourage
10 comprehensive retrofits of limited income multi-family properties. In accordance with Decision No.
11 76313, APS has, and will, continue increased funding for the program. Furthermore, the program
12 will also target support to reach disadvantaged communities and provide upgrades for multifamily
13 properties.

14 66. Given the COVID-19 pandemic, APS is also proposing a temporary increase to the
15 funding cap per home from \$6,000 to \$9,000 for weatherization projects performed by December
16 31, 2020.

17 67. With a cost-benefit ratio of 1.94, Staff recommends approval of the Home
18 Weatherization Upgrades for the Residential Limited Income Weatherization Program.

19 68. Staff further recommends approval to temporary increase the funding cap for
20 weatherization projects from \$6,000 to \$9,000, with the funding cap returning to \$6,000 on January
21 1, 2021.

22 9. Increase HVAC Qualifying Incentives (Non-Residential)

23 69. APS is proposing to temporarily increase the incentive for replacing qualifying
24 HVAC equipment up to 75 percent of incremental costs with a maximum cap of no more than
25 \$10,000 per unit. Qualifying School HVAC replacement projects will also be eligible to participate
26 in this incentive.

27 . . .

28 . . .

70. To qualify for these proposed increased incentives, customers must meet the following requirements:

- a. The HVAC unit must be an emergency replacement of existing HVAC equipment that has failed or is failing. The incentive does not apply to early replacement of working equipment, or to new HVAC units that are not replacing existing equipment.
- b. HVAC units must be replaced before December 31, 2020, or until funding is no longer available, whichever comes first.
- c. Customers must meet all other current program requirements.

71. Customers who do not meet the conditions above may still receive the standard program incentives if they meet all other current program requirements.

72. The HVAC Qualifying Incentive is part of a currently approved cost-effective measure and increasing it has no effect on cost-effectiveness. Staff recommends approval to temporarily increase the HVAC Qualifying Incentives up to 75 percent of incremental costs with a maximum cap of no more than \$10,000 per unit for Non-Residential Existing Facilities and Schools Programs. Staff further recommends the Program returns to its current requirements and incentives January 1, 2021.

10. New Prescriptive EE Measures (Non-Residential)

73. APS is proposing to move the following measures from custom incentives to prescriptive incentives:

- Compressed Air Condensate Drains; and
- Upgraded Receivers

74. The Company states that both measures have been found to be cost-effective across a wide range of commercial applications and the move will highlight them as potential savings opportunities for customers and trade allies.

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75. In addition, APS is proposing to add the following new prescriptive EE Measures:

- Data Center Computer Room ACs;
- Ultrasonic Humidification; and
- Networked Thermostats

76. APS identified these three measures as new customer savings opportunities through work with stakeholders in the DSM Collaborative and Integrated Resource Plan working groups. The Company further states that these technologies are currently being deployed in other utility programs.

Measure and Program	Cost-Benefit Ratio
Compressed Air Condensate Drains (Existing Facilities, New Construction)	1.41
Upgraded Receivers (Existing Facilities)	4.30
Data Center Computer Room AC's (Existing Facilities, New Construction, & Schools)	1.26
Ultrasonic Humidification (Existing Facilities)	1.38
Networked Thermostats (Existing Facilities, & New Construction)	1.17

77. Staff recommends approval of Compressed Air Drains and Networked Thermostats as new measures for both the Non-Residential Existing Facilities and New Construction Programs.

78. Staff recommends approval of Upgraded Receivers and Ultrasonic Humidification as new measures for the Non-Residential Existing Facilities Program.

79. Staff recommends approval of Data Center Computer Room AC's as a new measure for the Non-Residential Existing Facilities, New Construction, and Schools Programs.

11. New Electrification Pilot Measures (Non-Residential)

80. APS is proposing the following new Electrification Measures:

- Standby Truck Refrigeration (Existing Facilities and New Construction) - Electric standby truck refrigeration units allow trucks to plug in and use electricity to power their HVAC and/or refrigerated storage while they are docked at a truck stop or distribution facility. APS proposes to pay an incentive of approximately \$750 per bay for eligible newly installed electric conversion units (electric infrastructure replacing existing electric infrastructure does not qualify for this program). APS may vary the incentive in response to market conditions within a range not to exceed 75 percent of customer incremental cost.

- Electric Forklifts (Existing Facilities and New Construction) - Electric Forklifts can be used as an alternative to conventional forklifts that run on propane or diesel fuel. APS proposes to pay an incentive of approximately \$1,250 per electric forklift addition or existing forklift conversion (electric equipment replacing existing electric equipment does not qualify for this program). APS may vary the incentive in response to market conditions within a range not to exceed 75 percent of customer incremental cost.
- Airport Electrification (Existing Facilities)
- Airplane tugs
- Airport luggage carts
- Airport luggage conveyors

81. APS is proposing average incentives of approximately \$1,100/unit for belt loaders, \$2,500/unit for baggage tugs, and \$5,000/unit for push back tugs.

Measure and Program	Cost-Benefit Ratio
Standby Truck Refrigeration (Existing Facilities & New Construction)	7.15
Electric Forklifts (Existing Facilities & New Construction)	4.83
Baggage Tugs (Existing Facilities)	1.56
Belt Loaders (Existing Facilities)	3.44
Push Back Tugs (Existing Facilities)	-0.6

82. On August 10, APS provided Staff with additional information regarding their proposed electrification pilot measures. With the new information, Staff was able to conduct a more efficient cost-benefit analysis on these proposed new measures

83. Staff recommends approval of Standby Truck Refrigeration as a new measure for the Non-Residential Existing Facilities & New Construction Programs.

84. Staff recommends approval of Electric Forklifts as a new measure for the Non-Residential Existing Facilities and New Construction Programs.

85. Staff recommends approval of Baggage Tugs as a new measure for the Non-Residential Existing Facilities Program.

86. Staff recommends approval of Belt Loaders as a new measure for the Non-Residential Existing Facilities Program.

87. Staff recommends the Commission does not approve Push Back tugs as a new measure for Non-Residential Existing Facilities.

12. Modifications to Custom, Whole Building and Retro-Commissioning Incentives (Non-Residential)

88. APS intends to modify the incentive design for the current Custom, Whole Building and Retro Commissioning measures. The new design provides a small incentive for EE savings at any time of the year, with an increased incentive applied to on-peak summer energy savings.

89. The proposed custom incentive design for these measures is as follows:

- An incentive of \$0.02 per Kilowatt-Hour (“kWh”) will be offered for qualifying custom EE projects based on estimated first year annual kWh energy savings.
- On qualifying projects, a bonus incentive of \$0.18 per kWh will be offered for all first-year savings that occur during summer on-peak hours on weekdays from June 1 through September 30 (as calculated and confirmed by APS energy modeling).
- All other rules and requirements for the Custom, Whole Building and Retro-Commissioning Incentives program remain in effect.

90. Custom, Whole Building and Retro-Commissioning are currently approved cost-effective measures and modifying their incentives will not affect their cost-effectiveness. Staff recommends approval of the modifications to Custom, Whole Building and Retro-Commissioning Incentives for the Non-Residential Existing Facilities and Schools Programs.

13. Cool Rewards (DSM Initiative)

91. APS is currently implementing the Rewards Initiative, which facilitates demand response, manages peak demand, and uses load shifting technologies including smart thermostats under the Cool Rewards Program. Participants of the Cool Rewards Program allow APS to raise their thermostats up to three degrees above the set temperature during Cool Rewards events, which occur no more than 20 times during on-peak hours between June 1 and September 30, and can last up to two hours.

...

1 92. In 2020, APS plans to expand the participation goal for Cool Rewards to 35,000
2 thermostats. In order to meet the increased program participation goals, the Company intends to
3 increase the enrollment incentive from \$25 to \$50 but will keep the \$25 annual participation
4 incentive as is.

5 93. Furthermore, APS intends to make the following program modifications to the Cool
6 Rewards Program:

- 7 • The temperature range for events may be up to three degrees of pre-cooling
8 and/or thermostat setback for standard events and up to a maximum of four
9 degrees setback for a limited number of high priority events each year.
- 10 • The time period of thermostat temperature setback during demand response
11 events for any individual participating thermostat may be up to three hours.
- 12 • Customer notice of events will be provided not less than two hours in advance
13 of an event or 15 minutes for a limited number of high priority events.
14 Customers will always maintain the ability to override any event by manually
15 adjusting their thermostat settings.
- 16 • APS intends to expand Cool Rewards eligibility to include qualifying small
17 business customers. Small business customers will receive the same
18 incentives as residential customers for each participating smart thermostat
19 they enroll in the program.

20 94. Cool Rewards is a currently approved measure and modifying its incentive will not
21 affect its cost-effectiveness. Staff recommends approval of the \$50 enrollment incentive for the
22 Cool Rewards Program.

23 95. Staff further recommends that temperature range for events be up to three degrees of
24 pre-cooling and/or thermostat setback for standard events and up to a maximum of four degrees
25 setback for a limited number of high priority events each year.

26 96. Staff further recommends that the time period of thermostat temperature setback
27 during demand response events for any individual participating thermostat may be up to three hours.

28 97. Staff further recommends customer notice of events will be provided not less than
two hours in advance of an event or not less than one hour in advance for a limited number of high
priority events with customers always having the ability to override any event by manually adjusting
their thermostat settings.

98. Staff further recommends approval for APS to expand Cool Rewards eligibility to include qualifying small business customers in the program.

99. Staff further recommends APS clearly communicate all program modifications to participating customers.

C. Proposed New Pilot Programs

1. EV Demand Management Pilot Program

100. APS is proposing to launch a new EV Charging Demand Management Pilot Program (“EV Pilot Program”) to address the growing electric demand from EV charging. This Pilot Program will work with vehicle fleets, charging station infrastructure, and individual EV owners to gather data on EV charging behavior and to encourage off-peak charging to manage peak demand. The EV Pilot Program will target all EV owners within APS service territory and will include the following elements:

- **EV Charging Baseline Data:** APS will install data collection devices in participating EV vehicles to track and record their charging activity and provide baseline data on current EV charging behavior.
- **Beneficial Charging Behavior:** After establishing a baseline charging behavior, the program may then launch a rewards program for EV owners that would offer reward points in exchange for charging during off-peak hours.
- **EV Charging Station Direct Load Control:** It will work with EV charging station providers to connect EV charging stations into the APS Rewards distributed energy resource operating platform.

101. Pilot participants who allow a charge tracking device to be installed in their car, will receive an incentive of approximately \$85 per year, based on an estimated \$25 sign up incentive and a \$5 per month incentive for providing ongoing data. APS will evaluate the baseline data to determine the specific design of any future rewards points or other incentives to encourage off-peak charging behavior. In addition, APS states it may provide up to \$20,000 of incentives within the 2020 budget to encourage commercial EV charging stations to pilot the connected demand response element of the program.

...

1 102. If approved, APS plans to begin pilot implementation right after Commission
2 approval via existing program implementation contractors and delivery channels to ensure
3 integration with other potential DSM opportunities for customers and to leverage other program
4 infrastructure and delivery channels. With this integrated approach, APS estimates the EV Pilot
5 Program offerings could be available to customers within 180 days after Commission approval.

6 103. The Company is proposing a \$160,000 budget for the EV Pilot Program.

7 104. As EVs become more popular, more research is needed to further understand their
8 charging activity and behavior in order to develop effective and efficient demand responses for EVs
9 and their infrastructure. Staff recommends approval of the proposed EV Pilot Program for
10 Residential and Non-Residential customers. Staff further recommends APS report on the program's
11 results in its DSM Annual Progress Report.

12 2. Reverse Demand Response Pilot Initiative (DSM Initiative)

13 105. APS is proposing a new Reverse Demand Response Pilot Initiative that will work
14 with qualifying non-residential facilities to identify opportunities for dispatching loads in response
15 to negative pricing events. In this pilot, customers would identify beneficial but non-essential loads
16 that could be operated in response to an event signal. These loads would be sub-metered and
17 provided with no-cost energy during these event periods.

18 106. To be eligible for this initiative, the dispatchable customer load must have a demand
19 of at least 30 kW. As part of the pilot costs, APS would provide the sub-metering and
20 communications infrastructure needed at the facility to enable calling reverse demand response
21 events. There would be no ongoing incentive for participation, but customers will receive the
22 benefits of free energy during reverse demand response event periods. Lastly, APS proposes to limit
23 the pilot to no more than \$200,000 in total spending in 2020.

24 107. Staff believes this proposed pilot measure could highly benefit participating
25 customers. Staff recommends approval of the Reverse Demand Response Pilot Initiative. Staff
26 further recommends APS report on the program results and benefits in the DSM Annual Progress
27 Report.

28 ...

D. Energy Savings and Continue Waiver of Ten Percent Cap in A.A.C. R14-2-2404(C)

108. The 2020 DSM Plan was designed with the goal of providing 22 percent of its retail sales from cost-effective demand-side management and energy efficiency programs, as required by the EE Rules². APS forecasts their 2020 Plan will provide an estimated energy savings total of 6,455,690 MWh by the end of 2020, which represents 23.6 percent of the Company's adjusted 2019 retail sales. The table below provides a breakdown of the projected energy savings.

Source of Projected Savings	Projected Savings
Residential Programs	116 MW and 123,000 MWh
Non-Residential Programs	29 MW and 107,000 MWh
DSM Initiatives	99 MW and 434,000 MWh
Total Estimated First Year Energy Savings (including the conversion of demand response MW savings into MWh)	664,000 MWh
Total Cumulative Savings to Date (Including credit for Pre-EE Rules savings)	5,791,690 MWh
Total estimated cumulative savings by the end of 2020	6,455,690 MWh

109. A.A.C. R14-2-2404(C)³ limits the amount of peak demand reduction from demand response and load management programs that a utility may count towards its compliance with the EE Rules to ten percent of each year's goal. APS is requesting a continued waiver of the ten percent cap so it may count all energy savings from demand response and load management programs toward compliance with the EE Rules.

² A.A.C. R14-2-2404(A) "An affected utility shall, through cost-effective [DSM] and [EE] programs, achieve cumulative annual energy savings, measured in kWh, equivalent to at least 22 percent of the affected utility's retail electric energy sales for calendar year 2019.

³ "An affected utility's measured reductions in peak demand resulting from cost-effective demand response and load management programs may comprise up to two percentage points of the 22 percent [EE] standard, with peak demand reduction capability from demand response converted to an annual energy savings equivalent based on an assumed 50 percent annual load factor. The credit for demand response and load management peak demand reductions shall not exceed ten percent of the [EE] standard set forth in subsection (B) for any year. The measured reductions in peak demand occurring during a calendar year after the effective date of this Article may be counted for that calendar year even if the demand response or load management program resulting in the reductions was implemented prior to the effective date of this Article."

110. In Decision No. 76313, APS was granted a waiver so that all energy saved in its 2017 DSM Plan could be counted towards the DSM goal. APS is proposing to continue current, as well as add new, demand response and load management programs, which will quickly reach the ten percent cap, thus, not all energy saved would be counted towards the EE Rules. Staff recommends approval to continue the existing waiver of the 10 percent cap set forth in A.A.C. R14-2-2404(C).

E. Requests and Waiver

1. Waiver to the Budget Requirements Set Forth in Decision No. 74406 and Allow a 75 Percent Shift of Unused Funds

111. Decision No. 74406 raised APS's budget shifting limit from 25 percent to 50 percent to allow APS to mitigate the impact of a reduced budget while effectively responding to market needs among program segments. However, the funds budgeted for the low-income weatherization customers and schools programs were prohibited from being shifted to other programs.

112. In its 2020 DSM Plan, APS is requesting, for the remainder of 2020, a waiver of the 50 percent budget shifting allowance. In its place, the Company, citing the COVID-19 pandemic, is requesting to shift up to 75 percent of unused program funds from one program to another and between customer segments. APS states that these changes will only be in effect until December 31, with the original 50 percent budget shifting allowance set forth in Decision No. 74406 back in effect January 1, 2021. If approved, the Company commits, for the waiver period, to provide quarterly spend reports, notices of program modifications within ten days of change(s) beyond the current guidelines, and continued compliance with all non-dated requirements.

113. The COVID-19 pandemic has undoubtedly affected utilities all over Arizona and its customers' needs causing uncertain impacts to program participation. Staff recommends approval to waive the current budget requirements set forth in Decision No. 74406.

114. Staff further recommends APS be allowed to shift up to 50 percent, instead of 75 percent, of unused program funds from one program to another and between customer segments upon providing a 60-day notice to the Commission for review and approval.

115. Staff further recommends these changes only be in effect until December 31, with the original budget requirements set forth in Decision No. 74406 back in effect January 1, 2021.

2. Ability to Increase/Decrease Incentives

116. APS is requesting the ability to both increase and decrease incentives upon providing 30-day notice, including justification for the change, to the Commission.

117. Staff recommends the Commission grant APS the ability to both increase and decrease incentives upon giving a 60-day notice to the Commission for review and approval.

F. *Proposed Budget and DSMAC*

118. APS is proposing a \$51,928,000 budget and to maintain the current \$0.000982 per kWh and \$0.353 per kW DSMAC charges approved in Decision No. 76313. The Company is further proposing to use \$3,284,124 in collected but unspent funds in the DSMAC balance account to fund the 2020 DSM program budget without needing to increase DSMAC collections.

119. In accordance with Decision No. 76313, APS is funding the Rewards Initiative with collected, but unspent funds, from the DSMAC balancing account. In 2020, the total of \$1,928,000 in remaining funds originally earmarked for the Rewards program will be used to fund remaining energy storage and load management technology installation. The table below shows the 2020 revenue requirements for the DSMAC.

Total 2020 DSM Budget	\$51,928,000
Amount Recovered in Base Rates	(\$20,000,000)
Collected and Allocated to Rewards	(\$1,928,000) *
Collected but Unspent DSMAC Funds	(\$3,284,124) *
Subtotal	\$26,715,876
Gain on Sale of Assets Balance	(\$229,537)
DSMAC Revenue to be Collected (12-month period)	\$26,486,339

*Funds from DSMAC Balancing Account

120. The following table depicts APS's anticipated 2020 DSM program costs broken down by spending category.

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Program	Rebates and Incentives	Program Implementation	Program Marketing	Planning and Administration	Training/ Technical Assistance	Consumer Education	Financing	Total Program Cost
RESIDENTIAL								
Existing Homes	\$5,939,699	\$1,080,500	\$225,000	\$399,288	\$445,000	\$0	\$0	\$8,089,487
New Construction	\$2,042,500	\$625,000	\$30,000	\$190,000	\$20,000	\$20,000	\$0	\$2,927,500
Multi-Family EE	\$1,002,500	\$253,719	\$5,000	\$130,000	\$190,000	\$227,000	\$0	\$1,808,219
Limited Income Weatherization	\$6,059,000	\$305,000	\$0	\$240,000	\$51,000	\$350,000	\$0	\$7,005,000
Conservation Behavior	\$599,950	\$1,220,000	\$0	\$80,000	\$0	\$0	\$0	\$1,899,950
Total for Residential	\$15,643,649	\$3,484,219	\$260,000	\$1,039,288	\$706,000	\$597,000	\$0	\$21,730,156
NON-RESIDENTIAL								
Existing Facilities	\$5,708,363	\$2,008,176	\$200,000	\$375,500	\$870,000	\$150,000	\$0	\$9,312,039
New Construction & Major Renovation	\$681,305	\$435,617	\$20,000	\$58,150	\$45,000	\$0	\$0	\$1,240,072
Energy Information Services	\$112,800	\$205,500	\$10,000	\$6,000	\$15,000	\$0	\$0	\$349,300
Schools	\$1,195,236	\$470,000	\$30,000	\$50,000	\$60,000	\$35,000	\$0	\$1,840,236
Total for Non-Residential	\$7,697,704	\$3,119,293	\$260,000	\$489,650	\$990,000	\$185,000	\$0	\$12,741,647
DSM INITIATIVES								
Demand Response	\$0	\$2,000,000	\$0	\$230,000	\$0	\$0	\$0	\$2,230,000
Rewards	\$3,754,862	\$1,976,000	\$25,000	\$250,000	\$0	\$0	\$0	\$6,005,862
Building Code & Appliance Standards	\$0	\$80,000	\$0	\$20,000	\$100,000	\$0	\$0	\$200,000
APS System Savings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EV Charging Demand Management	\$37,500	\$82,500	\$15,000	\$10,000	\$5,000	\$10,000	\$0	\$160,000
Subscription Rates Pilot Study	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Energy & Demand Education	\$0	\$414,959	\$0	\$310,000	\$200,000	\$4,729,376	\$0	\$14,250,197
Totals for DSM Initiatives	\$3,792,362	\$4,553,459	\$40,000	\$820,000	\$305,000	\$4,739,376	\$0	\$14,250,197
Segment Totals	\$27,133,715	\$11,156,971	\$560,000	\$2,348,938	\$2,001,000	\$5,521,376	\$0	\$48,722,000

Program Costs	\$48,722,000
Measurement, Eval & Research	\$3,206,000
TOTAL 2020 DSM BUDGET	\$51,928,000

121. Staff recommends \$51,592,500 budget for APS's 2020 DSM Plan. Staff's recommended budget eliminates the budgets from programs/measures it recommended denial for, from the overall DSM Plan budget.

Decision No. _____

122. Staff further recommends approval for APS to use \$3,284,124 from funds in the DSMAC balance account to fund the 2020 DSM program budget without needing to increase DSMAC collections.

123. Staff further recommends APS maintain the current \$0.000982 per kWh and \$0.353 per kW DSMAC charges approved in Decision No. 76313.

124. The table below reflects Staff's recommended budget.

Program	Total Cost
RESIDENTIAL	
Existing Homes	\$8,049,487
New Construction	\$2,815,000
Multi-Family EE	\$1,700,719
Limited Income Weatherization	\$7,005,000
Conservation Behavior	\$1,899,950
Total for Residential	\$21,470,156
NON-RESIDENTIAL	
Existing Facilities	\$9,236,539
New Construction & Major Renovation	\$1,240,072
Energy Information Services	\$349,300
Schools	\$1,840,236
Total for Non-Residential	\$12,666,147
DSM INITIATIVES	
Demand Response	\$2,230,00
Rewards	\$6,005,862
Building Code & Appliance Standards	\$200,000
APS System Savings	\$0
EV Charging Demand Management	\$160,000
Subscription Rates Pilot Study	\$0
Energy & Demand Education	\$5,654,335
Total for DSM Initiatives	\$14,250,197
Segment Totals	\$48,386,500

Program Costs	\$48,386,500
Measurement, Eval, & Research	\$3,206,000
Staff's Total 2020 DSM Budget	\$51,592,500*

*The Staff budget might include dollars for incentives for the proposed Connected Pool Pump Controls pilot measure, which Staff is not recommending approval of. Total budget for this item was not detailed by APS so Staff was not able to remove it from the total budget.

RECOMMENDATIONS

125. Below are Staff's recommendations regarding the proposed new/modified measures/programs, as discussed herein, to the APS 2020 DSM Plan.

- Staff has recommended approval of the proposed Residential Existing Homes Program as discussed herein.
- Staff has recommended approval of the Residential Conservation Behavior Program expansion as discussed herein.
- Staff has recommended approval of the previously approved Energy and Demand Education Pilot as a new element to the Residential Conservation Behavior Program as discussed herein. Staff has further recommended approval of its gateway device measure and recommended a customer incentive of 35 percent of incremental cost, or \$35 per household device, with flexibility to adjust incentives up to a maximum 50 percent of incremental cost.
- Staff has recommended approval of the Non-Residential Existing Facilities Program as discussed herein. Staff further recommended APS continue to track and report program participation from small business customers separately in its DSM Annual Progress Reports.
- Staff has recommended approval of the Non-Profit Program for both the Non-Residential Existing Facilities and New Construction Programs as discussed herein.
- Staff has recommended the Non-Profit Program be separately tracked and recorded within the Non-Residential Existing Facilities and New Construction Programs as discussed herein.
- Staff has recommended approval of the proposed expansions to the Non-Residential Energy Information Services Program as discussed herein.
- Staff has recommended approval of the proposed System Savings Projects Initiative as discussed herein.
- Staff has recommended approval of the proposed Building Codes and Appliance Standards Initiative as discussed herein.
- Staff has recommended approval of the proposed Energy and Demand Education Initiative as discussed herein.
- Staff has recommended approval to consolidate the T & D Pilot into the Rewards Initiative as discussed herein.
- Staff has recommended approval to consolidate the Load Management Technologies Pilot into the Rewards Initiative as discussed herein.
- Staff has recommended a temporary incentives increase to \$800 per unit for the Residential HVAC Quality Installation Program for all qualifying SEER

and 15 SEER and above units. Staff further recommended the program return to its currently approved requirements on January 1, 2021.

- Staff has recommended approval of Rate Optimized Smart Thermostats as a new measure for both Residential Existing Homes and Multi-Family Programs.
- Staff has recommended denial of Connected Water Heater Controls as a new pilot measure for both Residential Existing Homes and Multi-Family Programs.
- Staff has recommended denial of Connected Pool Pump Controls as a new Pilot measure for the Residential Existing Homes Program.
- Staff has recommended approval of EV Ready Pre-Wire as a new pilot measure for Residential New Construction Program.
- Staff has recommended APS work with participating homebuilders to design the EV Ready Pre-Wire Pilot Measure so that pre-wired EV homes are marketed to individuals or communities with the highest likelihood of owning an EV.
- Staff recommended denial of the Connected Water Heating as a new measure for both Residential New Construction and Multi-Family Programs.
- Staff has recommended denial of Induction Cooktops as a new pilot measure for both Residential New Construction and Multi-Family Programs.
- Staff has recommended approval of the Home Weatherization Upgrades to the Residential Limited Income Weatherization Program as discussed herein.
- Staff has recommended approval to temporary increase the funding cap for weatherization projects from \$6,000 to \$9,000 with the funding cap returning to \$6,000 on January 1, 2021.
- Staff has recommended approval to temporarily increase the Non-Residential HVAC Qualifying Incentives up to 75 percent of incremental costs with a maximum cap of no more than \$10,000 per unit for Existing Facilities and Schools Programs with the program returning to its previous incentives and requirements January 1, 2021.
- Staff has recommended approval of Compressed Air Drains as a new measure for both Non-Residential Existing Facilities and New Construction Programs.
- Staff has recommended approval of Upgraded Receivers as a new measure for the Non-Residential Existing Facilities Program.

- Staff has recommended approval of Data Center Computer Room ACs as a new measure for Non-Residential Existing Facilities, New Construction, and Schools Programs.
- Staff has recommended approval of Ultrasonic Humidification as a new measure for the Non-Residential Existing Facilities Program.
- Staff has recommended approval of Networked Thermostats as a new measure for Non-Residential Existing Facilities and New Construction Programs.
- Staff has recommended approval of Standby Truck Refrigeration as a new measure for the Non-Residential Existing Facilities and New Construction Programs.
- Staff has recommended approval of Electric Forklifts as a new measure for the Non-Residential Existing Facilities and New Construction Programs.
- Staff has recommended approval of Baggage Tugs, and Belt Loaders, as new measures for the Non-Residential Existing Facilities Program.
- Staff has recommended denial of Push Back Tugs a new measure for Non-Residential Existing Facilities.
- Staff has recommended approval of the proposed modifications to Custom, Whole Building and Retro-Commissioning Incentives for the Non-Residential Existing Facilities and Schools Programs as discussed herein.
- Staff has recommended approval of the \$50 enrollment incentive for the Cool Rewards Program.
- Staff has recommended the temperature range for Cool Rewards events be up to three degrees of pre-cooling and/or thermostat setback for standard events and up to a maximum of four degrees setback for a limited number of high priority events each year.
- Staff has recommended the time period of thermostat temperature setback during Cool Rewards demand response events for any individual participating thermostat may be up to three hours.
- Staff has recommended customer notice of Cool Rewards events will be provided not less than two hours in advance of an event or not less than one hour in advance for a limited number of high priority events with customers always having the ability to override any event by manually adjusting their thermostat settings.

- Staff has recommended approval for APS to expand Cool Rewards Program eligibility to include qualifying small business customers in the program.
- Staff has recommended APS clearly communicate all Cool Rewards Program modifications to participating customers as discussed herein.
- Staff has recommended approval of the proposed EV Pilot Program for Residential and Non-Residential customers as discussed herein.
- Staff has recommended APS report results of the EV Pilot Program in its DSM Annual Progress Report.
- Staff has recommended approval of the Reverse Demand Response Pilot as a new DSM Initiative as discussed herein.
- Staff has recommended APS report the results and benefits of the Reverse Demand Response Pilot Initiative in its DSM Annual Progress Report.
- Staff has recommended approval for APS to continue its existing waiver of the ten percent cap set forth in A.A.C. R14-2-2404(C) so that it can count all savings from demand response and load management programs towards compliance with the EE Rules.
- Staff has recommended approval to temporarily waive APS's current 50 percent budget shift requirements set forth in Decision No. 74406, until December 31, 2020, with the waiver expiring January 1, 2021.
- Staff has recommended APS be allowed to temporarily shift up to 50 percent of unused program funds from one program to another and between customer segments upon providing a 60-day notice to the Commission for review and approval. Staff further recommended these changes only be in effect until December 31, with the original budget requirements set forth in Decision No. 74406 back in effect January 1, 2021.
- Staff has recommended the Commission grant APS the ability to both increase and decrease incentives upon giving a 60-day notice to Commission for review and approval.
- Staff has recommended a \$51,592,500 budget for the 2020 DSM Plan.
- Staff has recommended APS may use \$3,284,124 from funds in the DSMAC balance account to fund the 2020 DSM program budget.
- Staff has recommended APS maintain the current \$0.000982 per kWh and \$0.353 per kW DSMAC charges approved in Decision No. 76313.

CONCLUSIONS OF LAW

1
2 1. Arizona Public Service Company is an Arizona public service corporation within the
3 meaning of Article XV, Section 2 of the Arizona Constitution.

4 2. The Commission has jurisdiction over Arizona Public Service Company and over the
5 subject matter of this application.

6 3. The Commission, having reviewed the application and Staff's Memorandum dated
7 September 15, 2020, concludes that it is in the public interest to approve the Arizona Public Service
8 Company 2020 Demand-Side Management Implementation Plan as discussed herein.

ORDER

9
10 IT IS THEREFORE ORDERED that Arizona Public Service Company's 2020 Demand-Side
11 Management Implementation Plan is approved as discussed herein.

12 IT IS FURTHER ORDERED that the Residential Existing Homes Program is approved as
13 discussed herein.

14 IT IS FURTHER ORDERED that the Residential Conservation Behavior Program expansion
15 is approved as discussed herein.

16 IT IS FURTHER ORDERED that the previously approved Energy and Demand Education
17 Pilot be approved as a new element to the Residential Conservation Behavior Program as discussed
18 herein and that its gateway device measure be approved with a customer incentive of 35 percent of
19 incremental cost, or \$35 per household device, with flexibility to adjust incentives up to a maximum
20 50 percent of incremental cost.

21 IT IS FURTHER ORDERED that the Non-Residential Existing Facilities Program is
22 approved as discussed herein and that Arizona Public Service Company continue to track and report
23 program participation from small business customers separately in its Demand-Side Management
24 Annual Progress Reports.

25 IT IS FURTHER ORDERED that the Non-Profit Program for both the Non-Residential
26 Existing Facilities and New Construction Programs be approved as discussed herein.

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1 IT IS FURTHER ORDERED that the Non-Profit Program be separately tracked and
2 recorded within the Non-Residential Existing Facilities and New Construction Programs as
3 discussed herein.

4 IT IS FURTHER ORDERED that the proposed expansions to the Non-Residential Energy
5 Information Services Program be approved as discussed herein.

6 IT IS FURTHER ORDERED that the proposed System Savings Projects Initiative be
7 approved as discussed herein.

8 IT IS FURTHER ORDERED that the proposed Building Codes and Appliance Standards
9 Initiative be approved as discussed herein.

10 IT IS FURTHER ORDERED that the proposed Energy and Demand Education Initiative be
11 approved as discussed herein.

12 IT IS FURTHER ORDERED that the T & D Pilot be consolidated into the Rewards Initiative
13 as discussed herein.

14 IT IS FURTHER ORDERED that the Load Management Technologies Pilot be consolidated
15 into the Rewards Initiative as discussed herein.

16 IT IS FURTHER ORDERED that the temporary incentives increase of \$800 per unit for the
17 Residential HVAC Quality Installation Program for all qualifying Seasonal EE Ratio and 15
18 Seasonal EE Ratio and above units be approved as discussed herein and that the program return to
19 its currently approved requirements on January 1, 2021.

20 IT IS FURTHER ORDERED that Rate Optimized Smart Thermostats be approved as a new
21 measure for both Residential Existing Homes and Multi-Family Programs.

22 IT IS FURTHER ORDERED that Connected Water Heater Controls not be approved as a
23 new pilot measure for both Residential Existing Homes and Multi-Family Programs.

24 IT IS FURTHER ORDERED that Connected Pool Pump Controls not be approved as a new
25 Pilot measure for the Residential Existing Homes Program.

26 IT IS FURTHER ORDERED that the Electric Vehicle Ready Pre-Wire Pilot measure be
27 approved for Residential New Construction Program.

28 ...

1 IT IS FURTHER ORDERED that Arizona Public Service Company work with participating
2 homebuilders to design the Electric Vehicle Ready Pre-Wire Pilot Measure so that pre-wired Electric
3 Vehicle homes are marketed to individuals or communities with the highest likelihood of owning an
4 Electric Vehicle.

5 IT IS FURTHER ORDERED that Connected Water Heating not be approved as a new
6 measure for both Residential New Construction and Multi-Family Programs.

7 IT IS FURTHER ORDERED that Induction Cooktops not be approved as a new pilot
8 measure for both Residential New Construction and Multi-Family Programs.

9 IT IS FURTHER ORDERED that the Home Weatherization Upgrades to the Residential
10 Limited Income Weatherization Program be approved as discussed herein.

11 IT IS FURTHER ORDERED that the temporary increase from \$6,000 to \$9,000 to the
12 funding cap for weatherization projects be approved with the funding cap returning to \$6,000 on
13 January 1, 2021.

14 IT IS FURTHER ORDERED that the temporary increase to the Non-Residential HVAC
15 Qualifying Incentives be approved up to 75 percent of incremental costs with a maximum cap of no
16 more than \$10,000 per unit for Existing Facilities and Schools Programs with the program returning
17 to its previous incentives and requirements January 1, 2021.

18 IT IS FURTHER ORDERED that Compressed Air Drains be approved as a new measure for
19 both Non-Residential Existing Facilities and New Construction Programs.

20 IT IS FURTHER ORDERED that Upgraded Receivers be approved as a new measure for
21 the Non-Residential Existing Facilities Program.

22 IT IS FURTHER ORDERED that Data Center Computer Room ACs be approved as a new
23 measure for Non-Residential Existing Facilities, New Construction, and Schools Programs.

24 IT IS FURTHER ORDERED that Ultrasonic Humidification be approved as a new measure
25 for the Non-Residential Existing Facilities Program.

26 IT IS FURTHER ORDERED that Networked Thermostats be approved as a new measure
27 for Non-Residential Existing Facilities and New Construction Programs.

28 ...

1 IT IS FURTHER ORDERED that Standby Truck Refrigeration be approved as a new
2 measure for Non-Residential Existing Facilities and New Construction Programs.

3 IT IS FURTHER ORDERED that Electric Forklifts be approved as a new measure for the
4 Non-Residential Existing Facilities and New Construction Programs.

5 IT IS FURTHER ORDERED that Baggage Tugs, and Belt Loaders, be approved as new
6 measures for the Non-Residential Existing Facilities Program.

7 IT IS FURTHER ORDERED that Push Back Tugs not be approved as a new measure for the
8 Non-Residential Existing Facilities Program.

9 IT IS FURTHER ORDERED that the proposed modifications to Custom, Whole Building
10 and Retro-Commissioning Incentives be approved for the Non-Residential Existing Facilities and
11 Schools Programs as discussed herein.

12 IT IS FURTHER ORDERED that the proposed \$50 enrollment incentive be approved for
13 the Cool Rewards Program.

14 IT IS FURTHER ORDERED that the temperature range for Cool Rewards events be up to
15 three degrees of pre-cooling and/or thermostat setback for standard events and up to a maximum of
16 four degrees setback for a limited number of high priority events each year.

17 IT IS FURTHER ORDERED that the time period of thermostat temperature setback during
18 Cool Rewards demand response events for any individual participating thermostat may be up to
19 three hours.

20 IT IS FURTHER ORDERED that customer notice of Cool Rewards events will be provided
21 not less than two hours in advance of an event or not less than one hour in advance for a limited
22 number of high priority events with customers always having the ability to override any event by
23 manually adjusting their thermostat settings.

24 IT IS FURTHER ORDERED that Arizona Public Service Company may expand the Cool
25 Rewards Program eligibility to include qualifying small business customers in the program.

26 IT IS FURTHER ORDERED that Arizona Public Service Company clearly communicates
27 all Cool Rewards Program modifications to participating customers as discussed herein.

28 . . .

1 IT IS FURTHER ORDERED that the proposed Electric Vehicle Pilot Program be approved
2 for Residential and Non-Residential customers as discussed herein.

3 IT IS FURTHER ORDERED that Arizona Public Service Company report results of the
4 Electric Vehicle Pilot Program in its Demand-Side Management Annual Progress Report.

5 IT IS FURTHER ORDERED that the Reverse Demand Response Pilot be approved as a new
6 Demand-Side Management Initiative as discussed herein.

7 IT IS FURTHER ORDERED that Arizona Public Service Company report the results and
8 benefits of the Reverse Demand Response Pilot Initiative in its Demand-Side Management Annual
9 Progress Report.

10 IT IS FURTHER ORDERED that Arizona Public Service Company to continue its existing
11 waiver of the ten percent cap set forth in A.A.C. R14-2-2404(C) so that it can count all savings from
12 demand response and load management programs toward compliance with the Energy Efficiency
13 Rules.

14 IT IS FURTHER ORDERED that the 50 percent budget shift requirement set forth in
15 Decision No. 74406, be temporarily waived until December 31, 2020.

16 IT IS FURTHER ORDERED that Arizona Public Service Company be allowed to
17 temporarily shift up to 50 percent of unused program funds from one program to another and
18 between customer segments upon providing a 60-day notice to the Commission for review and
19 approval and that the original budget requirements set forth in Decision No. 74406 back in effect
20 January 1, 2021.

21 IT IS FURTHER ORDERED that Arizona Public Service Company be allowed to both
22 increase and decrease incentives upon giving a 60-day notice to Commission for review and
23 approval.

24 IT IS FURTHER ORDERED that Staff's recommended \$51,592,500 budget be approved
25 for Arizona Public service Company's 2020 Demand-Side Management Plan.

26 IT IS FURTHER ORDERED that Arizona Public Service Company may use \$3,284,124
27 from funds in the Demand-Side Management Adjustment Charge balance account to fund the 2020
28 DSM program budget.

1 IT IS FURTHER ORDERED that Arizona Public Service Company maintain the current
2 \$0.000982 per kWh and \$0.353 per kW Demand-Side Management Adjustment Charge charges
3 approved in Decision No. 76313.

4 IT IS FURTHER ORDERED that this Decision shall become effective immediately.
5
6

7 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**
8

9 CHAIRMAN BURNS COMMISSIONER DUNN COMMISSIONER KENNEDY
10

11
12 COMMISSIONER OLSON COMMISSIONER MÁRQUEZ PETERSON
13

14 IN WITNESS WHEREOF, I, MATTHEW J. NEUBERT,
15 Executive Director of the Arizona Corporation Commission,
16 have hereunto, set my hand and caused the official seal of this
17 Commission to be affixed at the Capitol, in the City of
18 Phoenix, this _____ day of _____, 2020.

19 _____
20 MATTHEW J. NEUBERT
EXECUTIVE DIRECTOR

21 DISSENT: _____
22

23 DISSENT: _____
24

25 EOA:SGP:elr/MAS
26
27
28

1 Arizona Public Service Company
2 Docket No. E-01345A-19-0088

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